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## The Multicultural Family Learning Gardens at the Learning Gardens Laboratory: An Investigation of Community Collaboration

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**The Multicultural Family Learning Gardens at the Learning Gardens Laboratory:  
An Investigation of Community Collaboration**

**by  
Madelyn Mickelberry Morris**

**A culminating project submitted in partial fulfillment of the  
requirements for the degree of**

**Master of Science  
in  
Education: Educational Leadership and Policy  
Leadership for Sustainability Education (LSE) Program  
Formerly Leadership in Ecology, Culture, and Learning (LECL) Program  
Garden-Based Education Specialization**

**Portland State University  
Graduate School of Education  
2010**

*"To forget how to dig the Earth and tend the soil is to forget ourselves."  
~Gandhi*

An abstract of the culminating project of Madelyn Mickelberry Morris for the Master of Science in Education: Educational Leadership and Policy.

Title: The Multicultural Family Learning Gardens at the Learning Gardens Laboratory:  
An Investigation of Community Collaboration

Through community collaboration of many varied groups and individuals, the Multicultural Family Learning Gardens at the Learning Gardens Laboratory (LGL) was developed and implemented. During the period of January through June 2010, the presence of two garden coordinators allowed for providing 11 families with space, resources and support to learn to grow their own food. Additional community involvement in a communal gardening space was also nurtured.

In this paper, I utilize the pedagogical principles of sustainability education to address the importance of ecological systems, bio-cultural diversity, social & economic justice, and multicultural perspectives. I employ a literature review to provide a framework, ethnographic research methods, and my own experience as coordinator to tell the story of this garden project. Participants in this study include members of the Lane Middle School community who adopted a garden plot for the 2010 growing season at LGL; Portland State University capstone student volunteers; and Oregon State University master gardeners serving as garden mentors for participating families. Data collection methods include participant observation, informal interactions with participants, interviews, and written reflections.

This project provides a conceptual framework, ethnographic details, background surrounding the project's growth, and deliverables to serve as a resource in continuing

coordination of the Multicultural Family Learning Gardens at LGL. My hope is that this work will further enhance the partnership between LGL and the Lane Middle School community, serve as a starting point for future research and coordination surrounding engaging families in growing food at LGL, and provide useful background for those interested in developing similar community development projects.

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## **CHAPTER 1**

### **INTRODUCTION**

This project explores the role of the small-scale polyculture garden in promoting a resilient community, its importance in helping meet nutritional and medicinal needs, and its role as a site for civic and place-based transformative development. The pedagogical principles of sustainability education address the importance of ecological systems, bio-cultural diversity, social & economic justice, and multicultural perspectives. Framing the garden as a sustainable solution, I will address the need for vibrant local food networks, particularly in low-income areas; social, ecological, and community resilience; opportunities for ecological education; and increased meaningful opportunities for civic engagement. Using a conceptual framework of the garden's social and cultural relevance, commitment to valuing multicultural perspectives, and emphasis upon the validation of the subaltern cultural experience (as opposed to the dominant hegemonic cultural experience), this paper tells the story of my work developing the 2010 Multicultural Family Learning Gardens at the Learning Gardens Laboratory in Portland, Oregon.

The Multicultural Family Learning Gardens provides diverse families from the Lane Middle School community with free space to garden at the Learning Gardens Laboratory (LGL), located in the Brentwood-Darlington neighborhood of Southeast Portland, Oregon. Free seeds, seedlings, and access to tools and other resources on site are provided. Participating families receive support to help them achieve success in vegetable gardening, and some are paired with experienced Garden Mentors—volunteers drawn from the Oregon State University (OSU) Extension Master Gardener program—who assist them throughout the season. Additionally, Portland State University (PSU)

students assemble educational gardening materials and resources for families to use and provide volunteer coordination for the project. As project coordinator, I recruit families and support family involvement; develop guidelines and other deliverables; plan, design, and develop the gardens; recruit volunteers and coordinate their efforts; facilitate collaboration of various groups; act as a resource during drop-in gardening times for families; and serve as a contact person and source of information and support for everyone involved in the project.

Through describing the process of developing this project at LGL and including details on the experiences of participants, I hope to provide a useful framework that enables continuation and evolution of this project. The insights gained will likely support similar projects across the country, given the growing interest in garden-based projects and issues related to food insecurity, hunger, and health that affect low-income and non-white populations.

## **CHAPTER 2**

### **WHY ME? MY STORY**

I chose to become involved with this project based on my association with the Learning Gardens Laboratory (LGL) over the past 3 years. I was initially involved at LGL as I was finishing my bachelor's degree from Portland State University (PSU) in the beginning of 2007. At this time, I discovered PSU's Leadership in Ecology, Culture, and Learning (LECL) (now entitled Leadership for Sustainability Education (LSE)) program and was interested in it for graduate study. The director of the program, Pramod Parajuli, arranged for me to have an internship at LGL, to learn more about the program and the type of work exemplified by LECL students. Through this internship, I participated in education efforts with Lane Middle School students and assisted with farm management. I had the opportunity to work with and learn from the talented educators working at the gardens at that time, including Tuba Kayaarasi, Chad Honl, Greg Dardis, Judy BlueHorse, Randi Taylor-Habib, and Catie Pazandak. Their team's diverse approach to education was instrumental in my understanding of the possibility for sustainability education. The opportunity to become a part of the lessons with students, work the land, learn about gardening and farming, and explore the cultural shift of connecting food with schools shaped my perspective at a pivotal time in my life, when I was deciding what next step to take as an educator, environmentalist, and college graduate.

My experiences at LGL created an electric connection and sense of importance. I was inspired by the model of place-based education and the promise of garden-based education in public schools. I observed families from Somalia come to tend their beautiful mandala gardens, for which they received a paycheck provided by grant

funding. Through time spent at LGL, I connected with the hope for a delicious revolution in our society; one in which we begin to deeply value life-producing and life-sustaining skills of tending the Earth for sustenance and satisfaction. I felt that at LGL, the foundation was being laid for a future that excited me and filled me with hope for a sustainable future, in a way no other experience had.

My internship at LGL stretched into the summer, where I worked with Stephanie Rooney on harvesting produce from the gardens to contribute to the Lents International Farmers Market, in its kickoff year. Here I experienced the cultural vibrancy of the Lents community and became directly engaged with the growing alternative food system. In the quiet, early mornings we harvested and cleaned abundant produce and cut flowers from LGL and packed it all into tubs to set up at our market stand. Oftentimes a father from Senegal who lived nearby would come in the morning to work in the garden he tended on the land, and to lend a hand with the harvest. He frequently brought his daughter, a Lane Middle School student, who helped us run the market stand. She learned to collect and count money as well as help keep track of what we sold. Her father shared with us hibiscus leaves and okra he grew to bring to market, which on his suggestion I tried cooking in a delicious mixture with corn, tomatoes, and onion from the garden.

At the Lents Farmers Market, we shared the bounty of the gardens with many different people: families who arrived by bike, Russian and Ukrainian women who walked over after church in their Sunday best, a Hispanic market vendor and her daughter who traded us tamales for tomatillos, an elderly Asian woman who adamantly insisted on paying a low price for garlic. Every week we brought a smattering of many different things LGL had to offer: Aronia berry, kohlrabi, watercress, corn, potatoes, onions,

carrots, garlic, grapes, lettuce, sorrel. People from the community would help us identify plants we brought from LGL and didn't know. Every time I went to the market, visitors to our booth shared their knowledge and taught us something about our produce. We would also hear reports back week-to-week on what recipes people used our produce in and how they liked it. This direct interaction with the community helped to raise awareness about LGL, distributed fresh and healthy food to residents, and aligned my personal priorities more closely with the mission of strengthening community food security.

The completion of my internship coincided with shifting leadership within the LSE (formerly LECL) program. This led me to pursue garden-based education efforts as a Garden Coordinator at a public school in Northeast Portland, bringing with me a deep influence acquired from my experiences at LGL.

Now, nearing completion of my pursuit of a graduate degree, I have stepped into a leadership role at LGL as coordinator of the Multicultural Family Learning Gardens. The intern position for a Multicultural Family Learning Garden Coordinator was open, and I was looking for a meaningful project to work on as a culmination of my studies within my graduate program.

I am increasingly interested in participatory, community-based education models and using the garden as a hands-on tool that holistically educates youth, adults, and elderly about food, land, and environmental issues. LGL has undergone many changes over the last few years, and I am proud to be involved in its future success as a cohesive and revolutionary community which exemplifies a world-class model of transformative sustainability education.

My scholastic career and life experiences have led to a worldview that embraces commitment to ecological sustainability, desire for social justice, and faith in community resiliency through human-ecological connections and bio-cultural diversity. I believe in the garden's power as a therapeutic and educational tool for building community and enhancing ecological understanding, in many capacities and settings. I am personally committed to working towards building communities that are equitable for people of ...“all cultural backgrounds, because our vitality is intricately tied to one another's” (Ortiz, 1999). In a world where the dominant culture's privilege and affluence have directly contributed to significant ecological devastation, I am increasingly interested in looking to the expertise of other cultures when balancing human needs with those of the Earth's ecosystems.

## **CHAPTER 3**

### **BUILDING A THEORETICAL FRAMEWORK: THE VOICES OF INTELLECTUAL ANCESTORS**

#### **Social Injustices of the Dominant Food System**

There is a serious issue in our country: A healthy diet is increasingly becoming accessible only to more privileged and affluent members of society, while disenfranchised and more ethnically diverse residents do not have adequate means to provide the very basic right of quality food for their families. This is particularly problematic in a country with as much wealth as the United States.

The term “food security” refers to access by all people at all times to enough nutritionally adequate, safe food for an active, healthy lifestyle. The USDA annual census update in 2006 found that 10-12% of the U.S. population was food insecure. The lowest-quality diets are found in low-income persons and those with less than a high school education (Morton et al., 2008), reflecting the socio-economic dimension of food insecurity in the United States.

Variety in diets and the consumption of fresh produce are almost always associated with higher food costs (Morton et al., 2008). It is difficult for those living on small incomes to meet the USDA-recommended daily allowances of fresh fruits and vegetables, as nutritious and fresh foods are more expensive and require more experience and equipment to prepare. This issue is compounded by the frequency of low-income people clustered in “food-deserts,” areas where there are no supermarkets available from which to purchase healthy, nutritious food. “Supermarkets primarily base their location

decisions on the revenue projections and number of targeted customers they can reach within the trade area....In some economically distressed areas, chains would be reluctant to open a store [because] the anticipated sales volume just wouldn't be enough to support a full-size supermarket" (Winne, 2008, p. 87).

The concentration of racial minorities in areas with limited access to quality food resources adds another stratification dimension to the issue of food access in low-income communities. Because many inner-city residents do not own cars, transportation to food stores is often a great hardship, particularly if one has small children, or is disabled or elderly. The quality and quantity of fresh, nutritional food available in small urban neighborhood stores is also lacking (Brown & Carter, 2003).

Inadequate nutrition is closely associated with school and work absences, fatigue, and problems with concentration. Hunger and poor nutrition are linked to the increased incidence of infectious disease. Preschool and school-aged children experiencing chronic hunger have higher levels of anxiety, depression, and behavior problems than children with no hunger. The lack of a nutritious diet is a well-known risk factor for diabetes, hypertension, and heart failure (Brown & Carter, 2003).

In the United States over the past 75 years, food assistance programs have evolved on a scale that is unprecedented in any other country. The government has 15 separate food assistance programs, which collectively spent \$53 billion in 2006 on food for lower-income Americans. These comprise one of America's largest welfare programs (Winne, 2008).

Publicly supported food redistribution efforts include the Food Stamp Program, providing coupons to low-income people for purchasing food; the National School Lunch



Program, providing food to children in public schools; and the Women, Infants and Children (WIC) Program, providing food assistance to mothers living on low annual incomes. Redistribution of food in this country also occurs on a massive scale through non-profit and charity groups operating food banks and pantries, senior meal programs, and community gardens. (Winne, 2008; Morton et al., 2008).

In the United States, it is estimated that the Food Stamp Program reaches about 55% of eligible households. According to the USDA 2004 annual census, about 12% of all U.S. households and 36.8% of low-income households were food insecure (cited in Winne, 2008). These numbers suggest that the Food Stamp Program cannot meet the demands of the nation's food insecure populations and that the formal support structure of food assistance programs for families is not adequate.

Implications of our modern food system are an enormous increase in diet-related illness and poor health in the last 60 years. Overweight and obese Americans now make up more than 60% of the population. Obesity is a major risk factor for high blood pressure, heart disease, stroke, diabetes, certain types of cancer, arthritis, and breathing problems (Winne, 2008). This is a major public health issue in the United States, and is increasingly penetrating younger members of society. Of children aged 6-11, 25-29% are overweight. Childhood obesity has gone up from 5% to 15% in the last 30 years. In the U.S., 35% of children eat no fruit, 20% eat no vegetables, and slightly less than 20% are getting the minimum number of fruit and vegetable servings per day as recommended by the USDA. These trends are even more pronounced in minority populations (Nolan, 2006). Low-income populations in the U.S. are particularly susceptible to diet-related afflictions such as diabetes and heart disease, in large part due to lack of access to healthy

food choices. The U.S. surgeon-general expressed concern that children in this generation be the first in U.S. history to have a shorter life span than their parents (Winne, 2008).

These growing public health concerns can be combined with environmental concerns, which both stem from the shift of our food system away from local production to an industrialized, mechanized, corporatized model. Agrarian poet and thinker Wendell Berry provides a strong critique and assessment of the negative impacts of this change on society:

Industrialism cannot understand living things except as machines, and can grant them no value that is not utilitarian. It conceives of farming and forestry as forms of mining; it cannot use the land without abusing it...It continues the economy of colonialism...Such an economy is bound to destroy locally adapted agrarian economies everywhere it goes, simply because it is too ignorant not to do so...The industrial economy thus is inherently violent. It impoverishes one place in order to be extravagant in another, true to its colonialist ambition. A part of the 'externalized' cost of this is war after war (Berry, 2002, p. 3).

Industrialization and increased faith in science and technology to produce and distribute food has resulted in:

soil erosion, soil degradation, pollution by toxic chemicals, pollution by animal factory wastes, depletion of aquifers, runaway subsidies, the spread of pests and diseases by the long-distance transportation of food, mad cow disease, indifferent cruelty to animals, the many human sufferings associated with agricultural depression, exploitation of 'cheap' labor, and the abuse of migrant workers" (Jackson, 2003, p. 141).

These threats to the health of our environment and our well-being, of which the burden overwhelmingly falls on the shoulders of the poor, sheds light on the reality that

the dominant food system is unsustainable, toxic, and making the land and our bodies sick.

We have become a nation of consumers who have no idea where most of what we eat comes from, who grew it, or how it was produced. At present, less than 5% of food required by a community's residents is produced locally. Food products typically travel between 1,500 and 2,500 miles from farm to plate, which is 25% further than how far food products traveled in 1980 (Halweil, 2002). Fruits and vegetables can spend as much as seven to fourteen days in transit before arriving in the supermarket. Almost 50% of the food transported is lost to spoilage, and most fruit and vegetable varieties sold are chosen for their ability to withstand industrial harvesting equipment and extended travel, not for their taste or nutritional quality. Few dollars that are generated by this food system remain in the town and regions where the food was produced. "Those who support the industry claim that the result is inexpensive food in grocery stores, but the reality is that the food industry actually contributes to the poverty of Americans" (Brown & Carter, 2003, p. 13).

The diets of Americans have changed drastically over the past 100 years. When changes in diet are profound, when it happens over the span of only a few decades, and when coercive sociopolitical, environmental, and economic pressures are at play during this period of transformation, there can be serious repercussions for people's health and well-being (Parrish et al., 2007, cited in Turner & Turner, 2008). "Perhaps even more serious is the loss of the cultural knowledge relating to the production, harvesting, processing, and use of the food" (Deur & Turner, 2005, cited in Turner & Turner, 2008). This loss of knowledge leads to declines in food security and food sovereignty.

There is a huge and growing body of research illustrating the environmental, social, and public health consequences caused by so-called Green Revolution agricultural techniques which require enormous inputs of pesticides and fertilizers, as well as negative impacts from aggressive corporate marketing, government subsidies of corn and soy, and industrialization of our food. We are in an era of ecological crisis: issues of global warming, pollution, mass losses in planetary biodiversity, cultural homogenization, and social injustices are the defining issues of our time. This crisis can be directly observed and reversed through our relationship with food.

I believe there is a need for change within our food system, in which all people in our society have access to nutritious food produced in a way that does not degrade soil, water, air, or communities. We cannot live without food, and increasing community self-reliance through alternatives to the dominant food system model can help to address the food gap in this country as well as re-connect our culture with the Earth-centered processes and cycles which nourish and sustain our lives.

Alternative food system strategies may include community gardening and youth gardening; solar greenhouses, cold frames, and roof-top production; food distribution projects such as food-buying clubs, co-op stores, co-op warehouses, and farmers markets; and development of local food processing centers that include canning, freezing, drying, butchering, and storage (Winne, 2008). All of these alternatives strive to improve community food security and address social and environmental inequities embedded in the dominant modes of food production and distribution.

In a report on the public health impacts of urban agriculture, Brown and Jameton (2000) point out that the potential of urban gardening is increasingly being recognized as

a significant link in urban food security in the United States. “Many low-income and immigrant urban gardeners already rely on produce from their gardens to put food on their tables. It is likely that many more people would take up gardening for food if they were supported with knowledge, tools, and space” (Brown & Jameton, 2000, p. 25).

Providing education for gardeners and consumers about proper handling, preparation, and storage of fresh foods, and assisting consumers with culturally-appropriate recipes and information about the health benefits of garden-fresh foods is a promising avenue for improving public health (Brown & Jameton, 2000).

### **Community Food Security and Civic Agriculture**

When food policies begin with the hopes – as well as the knowledge and skills – of the urban and rural poor of the world, true food security will be built and this will be a huge step toward national security and world peace (P. Mann, cited in Brown & Carter, 2003, p. 9).

Community food security emphasizes building local capacities for food production and marketing, thus enhancing equity, social justice, and ecological sustainability. Its objectives include food systems that are decentralized and environmentally sound in the long term. It also aims to be supportive of the needs of the whole community and to assure equitable food access created through democratic decision-making (Levkoe, 2006). Community food security refers to a network of connections based on food in a community, ensures access to food and provides residents with the opportunity to participate in the food system (Conroe, 1999). The United States Department of Agriculture further defines this concept as community-based strategies

that seek to improve access of low-income households to healthful, nutritious food supplies, to increase the self-reliance of communities in providing for their own food needs, and to promote comprehensive responses to local food, farm, and nutrition issues (United States Department of Agriculture, 2008).

Community food security can be described as a process in which community-based programs work in tandem with federal nutrition safety net and emergency food assistance programs to move people from poverty to self-sufficiency and food security (Kantor, 2001). Abi-Nader et al.'s (2009) ground-breaking work evaluating the effectiveness of community food security programs describes food systems that promote healthy people as ensuring the health and well-being of all people, inclusive of race and class. A fundamental goal of successful community food security programs should be decreases in the inequities across race and class that contribute to food insecurity and compromise health. Teaching people of all ages the skills and knowledge essential to food production, preparation, nutrition, and enjoyment, as well as increasing safe settings where people can directly experience the land in ways that promote health and wellness strengthens community food security (Abi-Nader et al., 2009).

Community-based initiatives such as farmers markets and community gardens can boost the effectiveness of USDA nutrition assistance and education programs by increasing the availability of high-quality and affordable food in a community (Kantor, 2001). These and other initiatives strengthen community food security by focusing on the underlying social, economic, and institutional factors within a community that affect the quantity, quality, and affordability of food. The concept of community food security also takes into account the social, health, economic, and environmental dimensions of the

food system. It intersects with producer collectives, community-controlled economic development, alternative agriculture, the environmental movement, anti-hunger interests, and a renewed interest in civic engagement (Conroe, 1999).

Civic agriculture, a term coined by Thomas A. Lyson in 1999, refers to locally based agriculture and food production that is tightly linked to a community's social and economic development. Its development paradigms exist in opposition to the global, corporate-dominated food system, moving away from a strictly mechanistic focus on production and capital efficiency and toward the more holistic reintegration of people in place. Civic agriculture can promote citizenship and environmentalism not only through market-based models of economic behavior, but through common ties to place and physical engagement with that place. This lends shape and legitimacy to a growing body of creative, socioeconomic relationships, including farmer's markets, community-supported agriculture (CSA) ventures, cooperative grocery stores, and community gardens. Civic agriculture attends to less-standardized, more-direct, and self-reliant approaches to food production, distribution, and consumption. Equally important, it widens the scope of agriculture-related concerns to include food and farming systems that are responsive to particular ecological and socioeconomic contexts (DeLind, 2002).

Civic agriculture efforts open up social spaces within which new community relations and place-based understandings may take shape. As Lyson (2004) notes, "Each of these efforts [of civic agriculture] . . . provide forums where producers and consumers can come together to solidify bonds of community" (p. 44). Because of its inclusive nature, civic agriculture can encompass the context and culture of citizenship as an organic resource in its own right. "The melding of producers and consumers into earth-

bound citizens embraces the practice of personal and interpersonal expression, communication, and conflict resolution (around issues such as soil, place, ecology, history, cuisine) quite apart from prescribed outcomes and quantifiable goals” (DeLind, 2002, p. 223).

In Portland, community food security and civic agriculture have brought meaning and urgency to community-based alternative agriculture efforts and provide an important framework from which to operate the Multicultural Family Learning Gardens at LGL.

### **The Value of Localized Knowledge**

Ultimately we can all lay claim to the term native and the songs and dances, the beads and feathers, and the profound responsibilities that go with it. We are all indigenous to this planet, this mosaic of wild gardens we are being called by nature and history to re-inhabit in good spirit. Part of that responsibility is to choose a place. To restore the land one must live and work in a place. To work in a place is to work with others. People who work together in a place become a community, and a community, in time, grows a culture (Snyder, 1993, p. 236).

### **Food, Culture, and Agrarianism**

When considering the ecological crisis brought on by colonialism, industrialization, globalization, and the free market, looking for solutions can feel overwhelming, hopeless, and disempowering. What impact can we have on a small-scale, local level when the giants of neo-liberal policies, mass consumerism, pollution, ecological degradation, genetic modification, and corporate food are so monolithic and seemingly insurmountable?



Narrow and oversimplified perspectives of issues can become fallacies that cloud, rather than illuminate (Bolman & Deale, 2008). A “frame” refers to a coherent set of ideas that form a lens which enables us to see and understand more clearly. Reframing of issues can help to find clarity and meaning amidst confusion (Bolman & Deale, 2008). By placing my argument within the context of traditional and localized knowledge, I hope to illustrate the global effectiveness of community-level and garden-based strategies that support ecological stability. I will reframe community food security using the lens of an agrarian mindset (as a counterexample to the dominant industrial/globalization mindset) and valuing traditional ecological knowledge to allow the seeds of community food security to bear the fruit of a delicious revolution.

Addressing the cultural roots of the ecological crisis is crucial in order to widen the scope of our collective vision to find time-tested strategies that preserve ecological and community integrity.

Food production is a cultural process that throughout history has intersected with communal support, traditional wisdom, and nutritious food as fundamental elements of life. Food represents the intersection between cultural systems and ecological systems, as eating is an act all humans participate in daily, and food (traditionally) comes directly from a network of supportive ecological relationships. It is only recently that there has been a profound shift away from the fundamental role of food in our lives to food as a commodified product. Diet-related illness and the breakdown of community food networks have been results of this shift.

Agrarianism is an alternative worldview to the modern industrial/technological economic paradigm. In *The Essential Agrarian Reader*, Norman Wirzba (2003) defines

agrarianism as an intentional way of living that tests success and failure by the health and vitality of a region's entire human and nonhuman neighborhood. "Success includes a vibrant watershed and soil base; species diversity; human and animal contentment; communal creativity, responsibility, and joy; usable waste; social solidarity and sympathy; attention and delight; and the respectful maintenance of all the sources of life" (p. 4). The integrity of people and neighborhoods and the natural sources that both depend on are maintained and celebrated in the agrarian worldview, in which it is recognized that we are biological and social beings who depend on healthy communities and habitats for well-being.

### **Traditional Ecological Knowledge Defined**

Traditional ecological knowledge refers to "a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes et al., 2000, p. 12). Such knowledge is embedded in the local culture and environment (Raedeke & Rikoon, 1997). It is dynamic, constantly adjusted, tried, and adapted to new circumstances (Buchmann, 2009). This localized knowledge is unique to a given culture or society (Kothari, 2002). Traditional knowledge has discovered ecological relationships unknown to Western science (Nabhan, 2000). There is a great deal to learn about the land from those who have been living in an area for hundreds and perhaps even thousands of years, and who in many cases have preserved and encouraged biodiversity, species richness, and ecosystem services (Bye & Linares, 2000; Peacock & Turner, 2000).

Traditional ecological knowledge is practiced by what Gustavo Esteva and Madhu Prakash have called the ‘social majorities’ of the world (Esteva & Prakash, 1998). Pramod Parajuli refers to these groups as “ecological ethnicities,” which include “indigenous populations, peasants and other cultures of habitat such as fisherfolk, seedkeepers, forest dwellers and nomadic shepherds. The notion of ecological ethnicity refers to any group of people who derive their livelihood through day-to-day negotiations with their immediate environment” (Parajuli, 2006, p. 236). Ecological ethnicities possess the technologies of sustainable living in a period when “the need to fine-tune human technologies to earth’s technologies is apparent” (p. 254).

Community and more ecologically centered cultures represent the majority of the world’s population. Because they are not oriented toward creating new technologies and monetizing their knowledge and relationships, they are less visible than the promoters of Western development highlighted by the media and Western educational institutions, and are also threatened by the spread of the Western-based monoculture (Bowers, 2005, p. 9).

Well-rooted in local tradition and local culture, peasants, urban ‘marginals,’ and other social majorities are departing from modern thinking and behavior. The experiences of these groups are so embedded in local spaces and cultures that any attempt to reduce them to a single global discourse is impossible; but they have in common radical post-modernity, which is not only something that comes *after* modernity but something that happens *against* modernity; they are reacting to a social condition that has reached a world scale (Esteva, 1994).

Sir Alfred Howard, the father of modern sustainable farming, wrote in his classic book, *An Agricultural Testament*, “What is happening today in the small fields of India

and China took place many centuries ago. The agricultural practices of the Orient have passed the supreme test – they are almost as permanent as those of the primeval forest, of the prairie, or of the ocean” (Howard, 1940, p. 6). Vandana Shiva reminds us to keep in perspective “Peasants as experts, as plant breeders, as soil scientists, as water managers, [who] have kept the world fed all these centuries” (Shiva , 1988, p. 98). Feminist scholarship has also focused on the hidden contribution of women to plant and animal domestication when human societies transitioned from gathering and hunting to agricultural and nomadic ways of life:

In one half of the 142 advanced horticultural societies farming was the exclusive domain of women, and it was shared on an equal footing with men in another 27 percent.... [W]omen domesticated plants and animals and invented selective breeding. They discovered propagation by shoots and cuttings, seed selection and the construction of seedling beds.... The following inventions are credited to women in cultivation: the use of ash as fertilizer; the creation of work tools such as the hoe, spade, shovel and simple plough; fallowing and crop rotation; mulching, terracing, contour planting, irrigation and land recuperation through tree planting (p. 105).

Both India and Mexico have demonstrated leadership in what Pramod Parajuli (2007) has called the “new global agrarianism” (p. 1). Mahatma Gandhi and Emiliano Zapata’s legacies have led to the resurgence of peasant economies and ecologies in their respective countries. Robert Kourik describes Andean farmers in the mountains of Chile as demonstrating more wisdom than modern agriculturalists and states, “Our agriculture’s reliance on machinery and chemicals puts us in debt for fuel, soil fertility, and bounty, and makes us dependent, not free” (Kourik, 2004, p. 16).

Subsistence-based communities, through their grass-roots resistance to global domination and what Vandana Shiva (1993) terms “monocultures of the mind” (p. 5), can serve as a source of inspiration and provide metaphors for moving us toward a renewed way of being and belonging (DeLind, 2002). For Esteva and Prakash, *comida* is one such metaphor. *Comida* defines a social condition in which power remains in the hands of the people. It is their source of solidarity and conviviality; their antidote to ragged, lonely individualism. Every post-modern group has to rediscover its own ideal of *comida* in its attempts to rediscover sustainable living and agriculture (Esteva & Prakash, 1998). *Comida*, among many peasants, refers to a very complex cultural relationship with the earth. “*Comida* alludes to a normal practice in a world where ‘scarcity’, in the economists’ construction of social reality, cannot appear, and which frequently has mechanisms to prevent it from appearing” (Esteva, 1994, p. 5).

### **Traditional Ecological Knowledge in Practice**

The Gandhian legacy of nonviolent resistance and self-sufficiency manifested in India through his political movement *Satyagraha*. This term is a derivative of Sanskrit; it translates literally as truth-firmness”. *Sat* refers to being, or that which exists. *Satya* is the knowledge of truth. *Agraha* is insistence, or to hold fast. So *Satyagraha* is truth-force, or force born of truth through love and non-violence (Diwakar, 1948). Gandhi’s *Satyagraha* movement in India was based on the following principles:

- o *Swaraj*: self-rule.
- o *Ramrajya*: godly rule.
- o *Aparigraha*: non-possession.
- o *Ahimsa*: non-injury; non-violence.
- o *Swadeshi*: made in one’s own country; self-reliance (Tinker, 1971).

- o Gram Rajya: village autonomy.
- o Sarvodaya: welfare of all (Williams, 2010).

Embedded in this philosophy are foundations of autonomous community-mindedness, demonstrated in village republics where “an emphasis on the primacy of agriculture and the supplementary and complementary importance of cottage industries is, in Gandhi’s opinion, the only solution” (Ramshray, 1985, p. 137). Practical suggestions from Gandhian political philosophy and practice include a redefinition of the economy and the market:

“According to Gandhi, the idea is to produce for local consumption and give priority to buying things that are produced locally. By practicing self-reliance, communities can maintain networks of sociality that define the ethics of relationships in terms of proximity rather than distance, locality and regionality rather than nationality and globality” (Parajuli, 2006, p. 252).

Framing community food security in the context of Gandhi’s non-violent activism and community self-reliance connects the present-day American movement towards a post-modern food system with that of agrarian peasant movements around the globe. Through this connection, new agency and value is bestowed to the life-preserving ecological knowledge and earth-centered technology of the social majorities of the planet. Looking to these technologies and practices may serve to illuminate and inform locally based community food efforts.

Gadgil, Hemam, and Reddy (1998) provide examples of societies practicing prudence through the maintenance and protection of sacred groves, in which long term ecosystem yields are enhanced at the cost of some immediate harvests. Sacred groves

persist to this day in many parts of Asia, Africa, and Mexico. They also covered much of the Middle East and Europe before the spread of Christianity and Islam. These sacred spaces contain groves of trees, springs of water, and "...as a rule, are never touched by the axe except when wood is wanted for the repair of religious buildings, or in special cases for other purposes" (p. 37). They are part of a variety of cultural traditions in these societies that promoted sustainable use of their natural resource base. Protection of sacred groves may indicate that kin-based, small-scale societies are more intimately dependent on the natural resources of their own restricted-resource catchments and are thus more sensitive to signs of depletion of their resource base. "People continue to recognize the manifold ecosystem services provided by the sacred groves" (Gadgil et al., 1998, p. 31). The communal recognition of value of an ecological resource leads to its protection on a community-wide level in this context.

Biocultural and biodiversity protection in Mexico occurs through community-based protection and a social welfare net built into a local resource management ethic, or *ejido*:

Mesoamerican cultural concepts of ownership extend beyond the usual Western legal considerations. The real owners of the land and forest are divine beings and spirits (including ancestors). The Earth (with its resources) is a member of the community, and the community has the obligation to treat the Earth and all other community members with respect and concern for their continued well-being. In other words, ownership means that the human community has a moral responsibility to maintain the land, its resources, and society in good condition. Hence, members of one family have the right to ask another family to borrow land or harvest forest products to meet their subsistence needs (Alcorn & Toledo, 1998, p. 230).

Indigenous households in Mexico tend to adopt strategies and survival mechanisms that guarantee an uninterrupted flow of goods, materials, and energy from nature and tend to conserve natural resources (Toledo, 2001). These strategies include the *Milpa* polyculture system, which includes up to 20-25 agricultural and forestry species; extraction of timber and other products from forests; manipulation of forests in different stages of disturbance, from which products such as vanilla, coffee, and cocoa are obtained; management of home gardens or agro-forestry systems that are located close to dwellings; extraction of products from local water bodies; management of small pasture areas; and management of forestry of agricultural plantations for cash crops (Toledo, 2001).

### **Implications For Local Foodsheds**

Akin to Mexico's *ejido* communities and Gandhi's village republics, the concept of a "foodshed" is based upon the idea of proximity, locality, and regionality. "[The foodshed] is built around boundaries set by plant communities, soil types, ethnicities, regional markets and exchange networks. Food is key in this new social organizing because what we are eating determines how we relate to the Earth, and how we relate to each other" (Parajuli, 2006, p. 253). Refocusing on our local foodshed could lead to the creation of a different kind of citizenship, as described by poet Gary Snyder, "to become members of the deep, old, biological communities of the land" (Snyder, 1993, p. 262.)

Examples of traditional ecological knowledge in practice illustrate the potential for what Gary Nabhan (2004) describes as cross-cultural pollination. Countless plant species require cross-pollination if they are to bear fertile seeds and delectable fruit. Millions of insects and vertebrate floral visitors are nourished by nectar and pollen. These



reciprocal ecological relationships are also reflected in both art and science, which require cross-fertilization of ideas to flourish. “Well-equipped scientists are meeting the limits of what they can accomplish as long as they stay within the paradigms of their own disciplines” (Nabhan, 2004, p. 49). By widening the scope of community food issues to include the post-modern, traditional experiences of peasant and indigenous communities, a new sense of purpose that values grassroots, small scale and local solutions can be cultivated.

Reframing community food security issues in this country within the context of traditional ecological knowledge and with an emphasis on our local foodshed illuminates the need to search for alternatives to the dominant Western scientific and economic paradigm. It is important to not glorify “traditional” sciences and strategies or Western science, but to recognize that “Western resource management has not been particularly successful in managing many of the planet’s environments sustainably (tropical forest, island ecosystems, inshore fisheries of Pacific islands, grazing in semi-arid lands). . . . Perhaps there are lessons to be learned from the cultural capital and people management of those who are local experts” (Berkes & Folke, 1998, p. 2).

Among the most daunting challenges of our era is the task of bringing about the transformation of consciousness that will be required if we are to move away from a culture predicated on consumption and the values of the market toward one that strives to balance human activities with the requirements of the natural world (Smith & Williams, 1999, p. 207).

Cross-pollination of ideas and strategies is necessary to protect ecological resources, strengthen communities, support health and nutrition, and promote citizenship.

Strong and resilient ecosystems and community systems emerge from community-level control of ecological resources, as demonstrated through peasant agriculture, agroforestry, and land management techniques in Mexico and India. Let us turn our attention specifically to the impact of the small-scale polyculture garden in a variety of contexts, and its impacts on social, ecological, and community resilience.

### **Exploring the Small-Scale Polyculture Garden in a Variety of Contexts**

Generations of people in the United States have grown up thinking of farming as a strictly rural endeavor. However, millions of people worldwide depend on crops and animals that are raised in cities. Huge urban population growth, as well as economic and political changes that undermine local food distribution systems, have led many cities around the world to foster a range of experiments in urban agriculture. In 1996, a United Nations report estimated that 80% of families in some Asian cities are involved in agriculture, with similarly high rates in Moscow, Cuba, and African cities (Brown & Jameton, 2000). In Russia, idle and provisional land in urban areas is used to produce 30% of the total food grown in the country and 80% of its vegetables, and the number of Moscow families engaged in food production increased from 20 to 65% between 1970 and 1990. One half of the vegetables consumed in Havana, Cuba, are grown in the city's farms and gardens. Singapore has 10,000 urban farmers who produce 80% of the poultry and 25% of the vegetables consumed in the country. U.S. urban areas, in contrast, are producing food far below their potential (Brown & Carter, 2003).

Examining non-market peasant and indigenous culture and agriculture, frequently undervalued or ignored, provides powerful lessons in ecological sustainability: The dominant culture must learn from these examples in order to address the global ecological crisis most effectively. Vandana Shiva (2005) describes the “logic of life on which Third World women farmers base their partnership with the Earth to provide food security to their family and communities” (p. 243). This regular, reciprocal relationship and interaction with the Earth is cultivated in the garden.

Polyculture gardening—gardening with many different species of plants—is one of many strategies of “ecological ethnicities” who demonstrate social-ecological resilience through day-to-day negotiation with their immediate environment (Parajuli, 2000). Tropical home gardens represent the most pervasive land use system across the globe (Buchmann, 2009), reflecting the “integrated concept of humans-in-nature” (Berkes et al., 2003, cited in Buchmann, 2009, p. 3). In this context home gardens are located near individual houses and are generally dependent on family labor (Vogl et al., 2004). The limited capital requirements and low labor costs of these small-scale gardening efforts increase the self-sufficiency of poor households and reduce vulnerability to climatic, biological or market impacts. A common practice is polyculture, growing small numbers of many species that creates high agro-bio-diversity (Finerman & Sackett, 2003). This polyculture results in many essential nutrients and micronutrients being provided right at the doorstep, enhancing the dietary diversity of the household (Buchmann, 2009).

One research study calculated that under average growing conditions in a 130-day growing season, a 10x10 meter plot can provide a household’s yearly

vegetable needs, including much of the household's nutritional requirements for vitamins A, C, and B complex and iron.... Although typically smaller, household gardens in urban settings in the United States can measurably supplement dietary intake and reduce overall household expenditures on food (Brown, 2000, p. 25).

Buchmann's (2009) ethno-botanical exploration of Cuban home gardens effectively illustrates their important role in allowing Cuban citizens the capacity to adapt, increase their ability to cope with change, and reshape local ecological and social systems. This reduces vulnerability by ensuring food security and creates a more resilient community. Home gardens reflect access to primary resources such as food and medicine and also reveal social mechanisms of plant material exchange strengthened through gift-giving, reciprocity, and bartering of resources. "...Local social networks developing in and around home gardens form the backbone of local community resilience" (Buchmann, 2009, p. 8).

Urban agriculture in the United States has always been enriched by the skills and technologies of immigrant populations. Often some of the most vulnerable people in cities, such as the elderly and refugees, have years of experience in, and knowledge about, raising and preserving food (Brown & Carter, 2003).

Airriess and Clawson's (1998) survey of market gardens in an ethnic enclave of Vietnamese in New Orleans, Louisiana, also reveals important social mechanisms of gardening. Gardeners surveyed overwhelmingly came from agrarian and village backgrounds in Vietnam, reflecting expressions of traditional skills and cultural heritage in their gardens in New Orleans. In the particular enclave the researchers studied, gardening was the exclusive activity of the elderly. Elderly immigrant populations often

lack English language mastery, do not possess marketable job skills, depend heavily on their children, have little mobility, and experience a breakdown of the extended family. All these factors contribute to a substantial loss of self-esteem and a sense of powerlessness, often leading to mental-health problems. The psychological well-being of the elderly is much improved through gardening. The cultivation of plants requires daily attention and fosters a sense of responsibility, commitment, and accomplishment. In these ways, gardening enhances self-esteem in this population of elderly Vietnamese immigrants. Gardening also helps to reduce the effects of acculturation by allowing access to traditional dietary habits and folk medicine traditions through the cultivation of a wide variety of familiar vegetables and herbs. Gardening carries economic benefit as well, substantially reducing household food expenditure.

Small-scale polyculture gardens address unique family needs and preserve traditional species and varieties, which makes important contributions to household self-sufficiency and sustainability. In Saraguro villages in the Andean highlands of southern Ecuador, women know their gardens intimately, and their knowledge base builds significantly with age and gardening experience. Plant borrowing emerges as an important basis for inter-household exchange. “Saraguro home gardens make a contribution far greater than that to diet, ritual life and remedy; the gardens are themselves a manifest representation of the community’s most deeply held values: autonomy, status, religious piety, and personal investment in family” (Finerman & Sackett, 2003, p. 479).

In a survey of 178 urban community gardeners in Newark, New Jersey, Patel (1991) reveals demographics that cut across social, economic, and racial barriers,

bringing together people of all ages and backgrounds. These gardeners described economic benefits through reduced food costs and improvements in their diet through access to fresh fruits and vegetables. They valued their ability to provide vegetables to meet their family's needs year-round, as well as access to plant varieties that can't be found at local markets or are too costly to purchase. "For landless Americans, community gardening can be the first step toward self-sufficiency—providing land to garden, a place to call 'mine,' and the opportunity to grow and produce things of value" (Patel, 1991, n.p.). In addition they cited several social and emotional benefits, such as more opportunities to socialize, help others, share produce, and have a sense of improving their neighborhood.

Small-scale polyculture gardens are important venues for food production, plant domestication, the transfer of traditional knowledge from generation to generation, and an improved sense of self-worth for the horticulturalists who tend them (Corlett, Dean, & Grivetti, 2003). Researchers found that among Hmong immigrants in Sacramento, California, gardeners unrelated by kinship generously share their knowledge regarding seeds and cultivation practices. Hmong gardens include a wide variety of useful medicinal, fiber, dye, and food plants, and Hmong women gardeners interviewed found it easier, more convenient, and more economical to grow their own fresh and familiar produce for their families. "Thriving [Hmong] urban gardens in Sacramento, California ultimately reveal how an uprooted people can begin to adapt to their new country. In this process, America is enriched" (Corlett, Dean, & Grivetti, 2003, p. 379).

In an exploration of community gardens and gardeners in Loisaida, a neighborhood in New York City's Lower East Side, Karen Schmelzkopf (1995) found

that some gardeners are interested only in growing food and consider the garden an economic resource. But many initially begin gardening to have a safe outdoor place as an option to their crowded apartments or unheated “squats” without running water or electricity. These gardeners want to improve the neighborhood by ridding it of drug dealers and bringing some nature into the area, and feel that socializing in the gardens gives them a sense of being a part of the community and a part of the land. A nonnegotiable rule of most of the gardens is that no drugs are allowed, which keeps the drug dealers away and keeps some gardeners away from drugs. Many individuals said that if they or their children were not in the gardens, they would be out getting high. There was a high percentage of female gardeners among those surveyed, and many girls and women explain that the garden is a place where they can feel safe yet still be outside with other people. Community garden space offers security and opportunity for women restricted by lack of money, the dangers of the street, and responsibilities for children. Domestic activities, nurturing, and a sense of home are explicitly brought outside into the gardens. The gardens help people feed themselves; foster a healthier physical and social environment; provide places for residents to work, play, and learn about nature; and are sanctuaries from the dangers, stresses, and temptations of the street.

A survey of Philadelphia community gardeners listed many reasons for participating: recreation (21%), mental health (19%), physical health (17%), produce quality and nutrition (14%), spiritual reasons (10%), cost and convenience (7%), self-expression/self-fulfillment (7%) and other (5%) (Blair et al., 1991). Green spaces also create a place for social gathering, a sense of community, and have been found to reduce stress, anger, and even blood pressure (Brown & Carter, 2003). Gardening three to four

times a week has the same health benefits as moderate walking or moderate bicycling (Brown & Carter, 2003). Additionally, while most community gardeners expect only to supplement their food budgets, the savings can be significant. For example, in a Milwaukee community garden project, half of the gardeners said they saved between \$101 and \$300 per season with the food they raised in their garden plots. In Philadelphia, community gardeners reported an annual savings of \$700 dollars per family (Blair et al., 1991). “Regardless of the economic reward, community gardens provide access to significantly more vegetables (and often more nutritious ones) than many families would ordinarily get in their diets” (Brown & Carter, 2003, p. 16). Researchers have also found that gardeners ate six out of 14 vegetable categories more frequently and milk, citrus, and sweet foods and drinks less frequently than non-gardeners (Blair et al., 1991).

In his essay, “Elegy to a Garden,” Andrew Light (2001, cited in DeLind, 2002) describes the depth of commitment and identification that emerges from participation in a community garden. For 22 years, the Esperanza Garden, located in a Puerto Rican community in New York City’s East Village, was a place that held together the social and environmental values of a group of people.

“The garden contained flowers, vegetables, and also medicinal plants used by local residents. This garden was not just a patch of green on a brown landscape or a clever bit of utopian protest art. It was a schoolhouse for this particular community where elders could teach the young something about their environmental traditions, their past, and also their aspirations for the future. The land . . . became the literal ground for intergenerational community” (Light 2002, p. 220)



Exploring the gardens of ethnic Americans, Patricia Kliendienst (2006) describes how making and keeping gardens serves as a way to protect cultural heritage and preserves wisdom about our place in nature that is all but lost to mainstream American culture. “Gardeners keep alive and offer back to us viable alternatives to the habits of mind that have brought us to our current ecological crisis” (p. xvi). Gardens heal and empower through “bringing life from the Earth, restoring agency and a sense of purpose” (p. 54). Growing traditional seed preserves a link to homelands and ancestors and provides the means to feed loved ones and grow herbs for traditional medicine and flowers for beauty. “Many immigrant and refugee gardeners also clean, toilets, wash dirty laundry, sweep houses, clean offices, mow lawns. In their gardens, they work for pleasure. They are knowledgeable and skilled. In what they create, they see a reflection of their true worth, which may rarely be glimpsed by the uncomprehending” (p. 121).

David Malakoff of the American Community Garden Association notes that “simply looking at a plant can reduce stress, fear, anger, and lower blood pressure and muscle tension” (Relf, 1991, p. 97). “Recreational gardening has been observed as a way to relax and release stress” (Brown & Jameton, 2000, p. 28).

Studies have also documented the potential of inner-city gardens for reducing crime: Marked reductions in burglaries, thefts, and illicit drug dealing in neighborhoods have been observed with garden projects (Brown & Jameton, 2000). There are social benefits as well:

Urban agriculture creates opportunities for leadership development and community organizing, contributing to a communities’ ‘social capital’... When low-income neighborhoods and market gardeners become involved in transforming their urban landscapes and claiming for themselves a sense of place

and pride, urban agriculture has become a forceful empowerment strategy for community participation and social change (Brown & Jameton, 2000, p. 29).

Growing gardens also has a host of ecological benefits. Composting enriches garden soils, reduces the need for chemical fertilizers, improves the biological activity of microscopic creatures, and reduces the need for pesticides. Urban composting is an excellent recycling strategy to reduce a city's solid waste stream (Brown & Jameton, 2000).

Gardens increase a city's biodiversity with plant variety and by attracting beneficial soil microorganisms, insects, birds, reptiles, and animals. Urban green spaces also plays a role in species preservation for birds and butterflies by providing food, resting spaces, and protection along migratory flight paths. Urban agriculture can reduce soil erosion and groundwater contamination, while plants absorb soil contaminants through their root systems and reduce air pollution by absorbing pollutants through their foliage" (Brown & Jameton, 2000, p. 33).

Sustainable urban agriculture is an essential tool that addresses many of a city's problems in innovative ways. Environmental stewardship is enhanced through urban agriculture's efforts to green cities. Purchasing food that is locally grown decreases energy needs and costs associated with long distance travel and refrigeration. Economic development and community revitalization are achieved when neighborhoods take pride in a community garden, when inner-city residents gain the ability to grow and market their own food, and when inner-city farmers' markets provide new opportunities for entrepreneurs and commercial farmers. Individual health and a sense of empowerment is enhanced when urban dwellers have access to and greater control over their own food

system. The city's residents can benefit from cleaner air, lower summer temperatures, and recycled waste water and trash. Urban farming takes into account the real cost of food and the real benefits from a local and regional food system (Brown & Carter, 2003).

The garden has myriad connections to community, culture, soil, water, land, and air. In *The Unsettling of America*, Wendell Berry (1996) writes: "By understanding, imagining, and living out the possibilities of 'kindly use' [we can] dissolve the boundaries that divide people from the land and its care, which together are the source of human life" (p. 10). Gardening promotes a community atmosphere, a place to meet others and problem solve together. Urban agriculture promotes civic engagement and participation, by providing space and opportunity for community members to collaborate in food production within their neighborhood (Balmer et al., 2005). Gardening helps communities become more connected, more resilient, and healthier.

### **Gardening as a Community-Based Ecological Education Tool**

True generosity lies in striving so that these hands – whether of individuals or entire peoples – need be extended less and less in supplication, so that more and more they become human hands which work and, working, transform the world (Paolo Friere, 1993, p. 45)

Chet Bowers (1999) uses the work of Karl Polanyi to point out the loss of traditional forms of knowledge that were the basis of many forms of reciprocity, "sustaining self-reliant communities who are now dependent upon buying the essentials of daily life that previously were shared through a variety of non-economic community relationships" (p. 165). He argues for learning from and teaching about traditional,

ecologically-centered and minority cultures as a way to move towards sustainability as a society.

In their book *Ecological Education in Action*, Smith and Williams (1999) outline the following principles of an ecologically-focused education:

- o Development of personal affinity with the earth through practical experiences out-of-doors and through the practice of an ethic of care.
- o Grounding learning in a sense of place through the study of knowledge possessed by local elders and the investigation of surrounding natural and human communities.
- o Induction of students into an experience of community that counters the press toward individualism that is dominant in contemporary social and economic experiences.
- o Acquisition of practical skills needed to regenerate human and natural environments.
- o Introduction to occupational alternatives that contribute to the preservation of local cultures and the natural environment.
- o Preparation for work as activists to negotiate local, regional, and national governmental structures in an effort to adopt policies that support social justice and ecological sustainability.
- o Critique of cultural assumptions upon which modern industrial civilization has been built, exploring the particular how they have contributed to the exploitations of the natural world and human populations (pp. 6-7).

These principles can be exemplified by education based within the garden.

Learning how to garden provides a place to develop a personal affinity with the Earth and an ethic of care. Understanding what grows well in a particular region depends on grounding oneself in a sense of place and investigating the surrounding natural and human communities. Maintaining an organic garden gives gardeners an opportunity to observe diverse, reciprocal, and cycling soil, food, water, waste, and biotic community webs, perhaps challenging notions of individualism. Gardening also allows for the

development of skills that allow for regenerating natural environments. Education in the garden contributes to a growing population of people who are committed to future work as activists and who desire, demand, and create occupational alternatives that move towards preservation of local cultures, natural environments, and ecological sustainability. Participating in the process of growing food leads to an examination of the dominant industrial food system and provides grounds to engage a critique of modern civilization's exploitation of the natural world and human populations.

Cajete (1999) uses the experiences and worldviews of indigenous people of North America as a roadmap in educating for sustainability and reconnection to place. He outlines foundations of education from native tribes, describes how these are applied in a modern garden curriculum with New Mexico's Pueblo people, and provides a summary of important facets of a biophilic education. Education centered around biophilia cultivates deep love for and connection with other living things, which address both the challenges of the ecological crisis and living together in a multicultural global society. "The origins of biophilia have much to do with human evolution and the way our brains have developed through interactions with natural environments.... Indeed, the biophilic sensibility has long been the guiding paradigm of indigenous forms of education found throughout the world" (p. 191).

The garden becomes not only a place to watch plants grow but a direct way...to participate in a greater circle of life. As people work the soil, plant seeds, pull weeds, nurture seedlings, and harvest crops they experience the fuller development of their natural connections and participate in an age-old indigenous way of becoming related to place (p. 199).

Labor in the community garden allows work, learning, and community to coexist side by side. “Learning how to cultivate different plants, to manage the irrigation system, to make and use of traditional tools, to identify wild plants, and to share in the overall care of the garden allows all participants to experience the kind of direct learning and teaching that characterize traditional indigenous education” (p. 201)

“The garden curriculum unfolds through the process of exploring an aspect of a community’s relationship to place. This exploration in turn leads to a dialogue to gather knowledge, understandings, and perspectives of the people of a community” (p. 202). Education rooted in the garden possesses a community-based orientation, and develops a community of learning, bonding, caring, and sharing. Learning occurs through interaction with other members of a community as well as with plants, animals, and landscapes (Cajete, 1999).

The experience of working together in a garden setting can be educational and transformative:

The direct involvement of human beings in efforts to reclaim the health and to bring back the wholeness of their own place has the potential of integrating people into surrounding ecosystems.... By centering the work of humans once more in the places where we live, it may be possible to reestablish the link between people and the natural world that has become so tenuous in industrial growth societies (Smith & Williams, 1999, p. 214).

Community interaction with place and the land in the garden could contribute to the shift in consciousness that must accompany the formation of an ecologically sustainable culture. This participation may invoke “the kind of wisdom encountered in

traditional societies where long engagement and experience have led people to become functioning, participating members of the land community” (p. 215).

Frijtof Capra (2005) argues that we can design sustainable societies by modeling them after nature’s ecosystems. Understanding the principles of ecology requires new ways of seeing the world and of thinking, which involves several shifts of perception: from the parts to the whole, from objects to relationships, from objective knowledge to contextual knowledge, from quantity to quality, from structure to process, and from contents to patterns. Systems thinking depends on recognizing the networks of relationships present in ecological systems. Cultural diversity may play the same role as biodiversity in an ecosystem and provides many different relationships and many different approaches to the same problem. The implications for education residing within this worldview requires bringing people together in networks of support and conversation, to enhance the work of all and give the network resilience.

“Sustainability always involves a whole community, and the role of diversity is closely connected with systems’ network structures. A diverse ecosystem will be resilient because it contains many species with overlapping ecological functions that can partially replace one another...the more complex the network’s patterns of interconnections are, the more resilient it will be” (Capra, 2005, p. 25).

The garden provides an excellent opportunity to observe nature’s cycles, as the waste from one specie becomes food for another. Growing one’s own food can open up the development of delight in tasting fresh and healthy food, which can lead to opportunities for changing dietary patterns, creating more markets for fresh food, and sustaining local family farms. Community food security programs represent frustration

with the failure of piecemeal methods of hunger intervention that do not have long-term impact. The community food movement addresses the overall systems that permit or prevent a community from meeting their needs for nutritional, safe, acceptable food. These examples connect to Capra's ecological and systems thinking models.

Ecological education connotes an emphasis on the embeddedness of human beings in natural systems. Rather than seeing nature as "other" than human, the practice of ecological education requires placing human beings as part of the natural world and human cultures as results of interactions between our species and particular places (Smith & Williams, 1999). "There is no way to disentangle human beings from the earth, and as long as our species exists, no way to separate the earth from humans" (p. 3). By inviting children and adults to participate in projects aimed at restoring damaged ecosystems and improving the lives of others in their community, ecological connections are deepened.

### **The Community Food Movement in Portland, Oregon**

The lack of a national food policy has been identified as a major issue for the 21st century by author and activist Michael Pollan (2008) in his book *In Defense of Food* and by community food activist Mark Winne (2008) in his book *Closing the Food Gap*. In 2002 the Portland, Oregon, City Council resolved to "support an economically viable and environmentally and socially sustainable food system" (Balmer et al., 2005). As a result, a citizen-based Food Policy Council was initiated to act as advisory council to the City of Portland and Multnomah County (City of Portland Bureau of Planning and Sustainability, 2010). The council's mission brings together a diverse array of stakeholders to integrate aspects of the food system in order to enhance the health of the city.



The City of Portland values the importance of nutritious, affordable food, grown sustainably and locally and accessible by everyone. In demonstration of these values, on Earth Day, April 22, 2009, City commissioners passed the *Better Together Garden* Resolution and the City Council created an organic garden on the City Hall lawn to recognize the growing community interest in food systems and to inspire residents in the city to plant edible gardens and include an extra row for the hungry (City of Portland Bureau of Planning and Sustainability, 2010). The harvest from the garden is donated to hunger relief efforts. Elm Court Loaves and Fishes, a senior meal site five blocks from garden, will receive the harvested produce and fruit. This nonprofit organization serves 150 people on-site and delivers an additional 250 meals every day.

The focus on Portland's regional food system and community food security comes at a time when the United States Department of Agriculture has ranked Oregon third among states experiencing very low food security. An estimated 36,000 people in Portland and Multnomah County require emergency food boxes every month as they struggle to afford enough nutritious, affordable, and culturally appropriate food.

There are several innovative programs with alternative agriculture, agrarianism, and ecological education at their core that address the issue of food insecurity in Oregon. The nonprofit Oregon Food Bank (2010) provides educational programs developed to foster greater food security for families in Oregon and Clark County, Washington. The Seed to Supper program and the Oregon Food Bank Learning Garden provides cooking, nutrition, and gardening classes, demonstrating a commitment to alleviating the root causes of hunger. Although home and community gardens supply only 8% of the food supply for families surveyed by the Oregon Food Bank, as reported in its 2008 *Profiles of*

*Hunger & Poverty in Oregon*, community learning gardens play a role in sustainability and community self-reliance by empowering people to grow their own food, and providing classes and services to support these efforts.

Community food security is central to the mission of Portland nonprofit Growing Gardens (2010). Growing Gardens assists low-income people who wish to garden on land available to them and pairs inexperienced gardeners with volunteer mentors who provide assistance and advice to aid in success with growing food. A survey of Growing Gardens gardeners indicates that 86% share food with people who do not live with them. Among these participants, 32% say they have met neighbors through gardening. There was a 44% increase in the number of households that ate fresh vegetables five or more times a week, and an 80% increase of the number of household that spent time outside more than five times a week after their garden was installed. These benefits can be shared with more people by improving access to public lands for the low-income community (Balmer et al., 2005).

The National School Lunch Program is a federal safety-net welfare program. Its goal of providing nutritious food to all children includes sourcing produce for school lunches from local farmers within Portland Public Schools with farm-to-school efforts. These efforts are also closely linked to a surge of school-based gardens and food and garden-based curricula with the intention to “promote understanding about where food comes from and the natural cycles that produce it” (Briggs, 2005, p. 245). Growing Gardens also provides training and support to a growing number of school garden coordinators, who work to enhance the connection between gardens, food, schools, and communities. Data from the Portland-based nonprofit Ecotrust’s *2007 School Garden*

*Inventory* (Ratcliffe & Smith, 2007) reveals that 160 school gardens are growing throughout Oregon, with Multnomah County home to 44, leading the state.

*The Diggable City: Making Urban Agriculture a Planning Priority* (Balmer et al., 2005) is a Portland-based research report developed by students in the Portland State University School of Urban Studies and Planning. The report inventories urban agricultural opportunities on public land in the Portland Metro area. Findings of the report conclude that urban agriculture projects directly support statewide land use planning goals in many ways. Specific benefits of urban agriculture defined in the report include promotion of civic engagement and citizen involvement, through providing space and opportunity for community members to collaborate in food production and gardening potential within their neighborhood. Additional findings confirm that urban agriculture contributes to more efficient utilization of vacant lands within the Urban Growth Boundary and promotes community development and food production for the City of Portland. Urban agriculture can also be used as a model for incorporating functional food production with improved community spaces and efforts to “green” the city.

*The Diggable City* also found that land, air, and water quality are all improved through urban agriculture efforts. Increasing and preserving gardens, farms, and open space in the city allows for more pervious surfaces, thereby improving water quality and promoting the health of local watersheds. Growing food in the city also provides local options for decreasing food vehicle miles, thereby lowering CO2 emissions (Balmer et al., 2005).

*The Diggable City* further explains that enhancing urban agriculture projects serves the recreational interests of community members, while simultaneously providing

the opportunity for education and food production. “Green spaces ...[build] awareness among community members of the importance of green space and environmental protection on behalf of all species. Urban agricultural activities, demonstrating a type of green space, will contribute to this awareness” (Balmer et al., 2005, p. 38).

Portland currently enjoys an explosion of home gardens, garden stores, and garden education resources. The interest in healthy, local, and sustainable food is reflected by an increasing number of seasonal farmer’s markets in the city, community supported agriculture projects, and a growing number of popular Portland-based restaurants and chefs committed to procuring local and seasonal food for their menus.

It is within this context and climate that the Multicultural Family Learning Gardens at the Learning Gardens Laboratory takes place.

## **CHAPTER 4**

### **PROJECT METHODOLOGY**

Future public health achievements will depend on our ability to coordinate complex, materially modest networks of human activity in support of simple and healthy ways of life, an essential component and key symbol of which is gardening. (Kate H. Brown and Andrew L. Jameton, 2000, p. 36).

#### **Data Collection and Analysis**

This project was conducted utilizing ethnographic research methods. The period of data collection was May 15-June 15, 2010. Data collection methods include observation of participants, recording of informal interactions with participants, and interviews with a sample of participants. Informal interactions with participants that occurred surrounding the garden were recorded in journal format by the researcher.

Interview participants included a sample of five individuals who adopted a garden plot for the 2010 growing season. Respondents were selected based on their sustained commitment and presence at the gardens, as observed by the researcher. This commitment provided a richer base of experience for them to draw from for reflection in the interview. Interviews were short and were conducted at the gardens in the greenhouse. All interviews were digitally recorded, with accompanying hand-written notes. Everyone asked was happy to provide an interview.

To collect student feedback and reflection surrounding their involvement with the Family and Multicultural Gardens, surveys were distributed to a sample of Portland State University (PSU) University Studies Senior Capstone students involved in service learning at the Learning Gardens Laboratory (LGL) during Spring term 2010. Senior

Capstone is the culmination of the University Studies program, which is designed to address general education needs by promoting inquiry and critical thinking, communication, understanding of the diversity of human experience, and development of ethics and social responsibility. Capstone courses are designed by PSU faculty to build cooperative learning communities by taking students out of the classroom and into the field. In Capstone courses, students from a variety of majors and backgrounds work as a team on a community project (Portland State University University Studies, 2010).

All participants who were interviewed, surveyed, or observed were asked to sign an Informed Consent Form, which was explained to them verbally. Participants also received a copy of the Informed Consent agreement. For confidentiality, interview participants are identified by their first names only, and other participants are kept anonymous.

My sustained engagement as coordinator of this project places me in the role of an active researcher. My personal involvement and efforts towards successful coordination of the gardens makes me an insider, with ample opportunity for data collection. This year, I worked with many people in planting seeds of community to create a new version of the Multicultural Family Learning Gardens. Through this work, I gained an understanding of the process, successes, and challenges surrounding building a framework to effectively involve Lane Middle School families in growing their own food at LGL.

In his book, *Closing the Food Gap*, Mark Winne (2008) relates a conversation with Jack Hale, a long-time community food advocate and activist. He describes the efforts of activists to start community gardens without enough neighborhood buy-in.

“People didn’t seem to understand that the most important word in *community garden* is not *garden*” (p. 17). The element of community support is indispensable to keep in mind in any effort to begin a new community garden project.

### **Acknowledging My Positionality**

Feminist researchers and other critical ethnographers use self-reflection about power as a tool to deepen ethnographic analysis and to highlight the dilemmas of fieldwork. Dynamics of power influence how problems are defined, which knowers are identified and given credibility, how interactions are interpreted, and how ethnographic narratives are constructed (Sachs & Naples, 2000, p. 195).

Feminist ethnography encourages researchers to consider how their personal, professional, and structural positions might frame their investigations and how they may inevitably reproduce dominant gender, race, and class biases. From this perspective, it is particularly relevant to emphasize the significance of analyzing particular standpoints in differing contexts, to explicate relations of domination embedded in communities and social institutions.

In the context of the Multicultural Family Learning Gardens at LGL, as a young woman, I may be perceived by some as someone who is inexperienced, unknowledgeable, or lacking power. I also am in a position of power compared with many other community members. I am a member of many dominant hegemonic power groups in America: educated, white, heterosexual, and from a middle-class background. I am a native English speaker, giving me the ability to communicate in the dominant tongue. This gives me different sets of opportunities and support systems when compared

with those coming from other ethnic backgrounds or socioeconomic positions. I have spent most of my life with little reason to question the notion that I can succeed effectively within the dominant system, a fundamental privilege of my ethnic background and socio-economic status in this country.

Along with the privilege provided by my position in life, I am affiliated with Portland State University, a higher education institution that is powerful in shaping the direction of the Learning Gardens Laboratory. Through this affiliation, I have acquired skills that allow me to navigate the system, as well as knowledge of how to voice my concerns. My race, class, and academic affiliation all provide a set of tools enabling navigation of the study site in ways that may not be perceived by other community members.

It is important to use my relative power to assist and advocate for the family gardeners and volunteers involved with the project and to consistently self-reflect and critically ask myself if I am utilizing my power in a way that marginalizes or alienates those with less power. “Like every other type of development project, there is ample potential for a garden to be top-down, driven by the priorities of outside-do-gooders, or controlled by a few people who exclude others” (Payne & Fryman, 2001, p. 3). By consistently working to develop the Multicultural Family Learning Gardens as an empowering resource that meets needs defined by the community and provides opportunities for meaningful leadership and engagement, power structures may be limited.

The classroom, academy, and social institutions can often be places used to enact rituals of control that are about domination and the unjust exercise of power (hooks,



1994). The garden, however, can serve as “a non-threatening place for interaction among people of all ages, cultures, and income levels” (Payne & Fryman, 2001, p. 3). The garden can be a place to lessen pervasive power dynamics: In many instances in our society people stand in relations of power, but “in the garden, we stand together examining the world in wonder” (Krapfel, 1999, p. 48).

## **Research Site Details**

### **Brentwood-Darlington Neighborhood Background**

The Brentwood-Darlington neighborhood of southeast Portland, Oregon contains social, economic, and cultural diversity, with a high concentration of immigrant and multicultural families from various countries. The neighborhood is primarily residential, with two public elementary schools (Woodmere and Whitman) and one public middle school (Lane Middle School).

### **Learning Gardens Laboratory Background**

The Learning Gardens Laboratory (LGL) is a 12-acre tract located across the street from Lane Middle School, in the Brentwood-Darlington neighborhood. (See Appendix A for a map of the site.) LGL is a place that is first defined by its symbolism as a horticultural education center. Its primary function is to provide hands-on, experiential education surrounding plants, nature, and gardening. LGL is also a place where many different groups aligned with this symbolic and functional mission interact.

For the past two decades this site has served public schools and the community as a site for horticultural education. Originally, in the 1990s, it was the home of Portland

Public Schools' Green Thumb Horticultural Magnet Program, aimed at providing high school students with vocational horticultural training to prepare them for success in the nursery business. The site had been idle and facing an uncertain future, when Drs. Pramod Parajuli and Dilafruz Williams developed a new vision of collaboration and partnership and started the Learning Gardens Laboratory in 2004-2005.

Today greenhouses, perennial and native plants, ornamentals, herbs, fruit trees, berry bushes, vegetable beds, and lawn make up a majority of the landscape, which is primarily maintained by staff, volunteers, educational groups, and other land partnerships. Partnerships include Portland State University, Portland Public Schools, Portland Parks and Recreation, and Oregon State University Extension service. The gardens are funded, developed, and maintained through these partnerships. This brings students from public and private secondary schools, university students, and community members from all over the city to the site to learn about gardening. Much of the labor and education on-site comes from volunteers.

As of Fall 2009, Portland State University faculty member Heather Burns serves as the PSU Coordinator. Undergraduate Senior Capstone courses at PSU focus their curricula around community engagement at LGL, with topics such as *Sustainable Food and Agriculture* and *Learning Gardens and Civic Affairs*. Coursework is woven into site maintenance and project-based needs. Students from many areas of the university complete community-based learning requirements through service there.

The site coordinator is Weston Miller, an Oregon State University (OSU) Extension employee in the Multnomah County chapter of the University-sponsored Master Gardener program. His work is focused on adult education, and helps to involve

Master Gardeners with caring for the site as an extension of their training. Master Gardeners volunteer their time in maintaining demonstration gardens, helping with LGL operations, providing educational workshops and classes, disseminating gardening information, and answering questions about gardening.

Students in the PSU Graduate School of Education's Leadership for Sustainability Education (LSE) program, (formerly Leadership in Ecology, Culture, and Learning (LECL)), serve in staff, internship, and volunteer positions at LGL, providing education, volunteer coordination, site development, and maintenance.

Additional community partners assist with maintaining the gardens and distributing food from the site. The Portland Fruit Tree Project is currently involved with creating a care plan and hosting workshops to maintain the fruit trees in the garden and provides education to community members interested in orchard care. The Portland Community Gardens rent fee-based garden plots on the land to community members and also host educational events. Fruits and vegetables grown on-site are consumed by students and volunteers, as well as donated to hunger relief and other community organizations.

### **Lane Middle School and the Learning Gardens Laboratory**

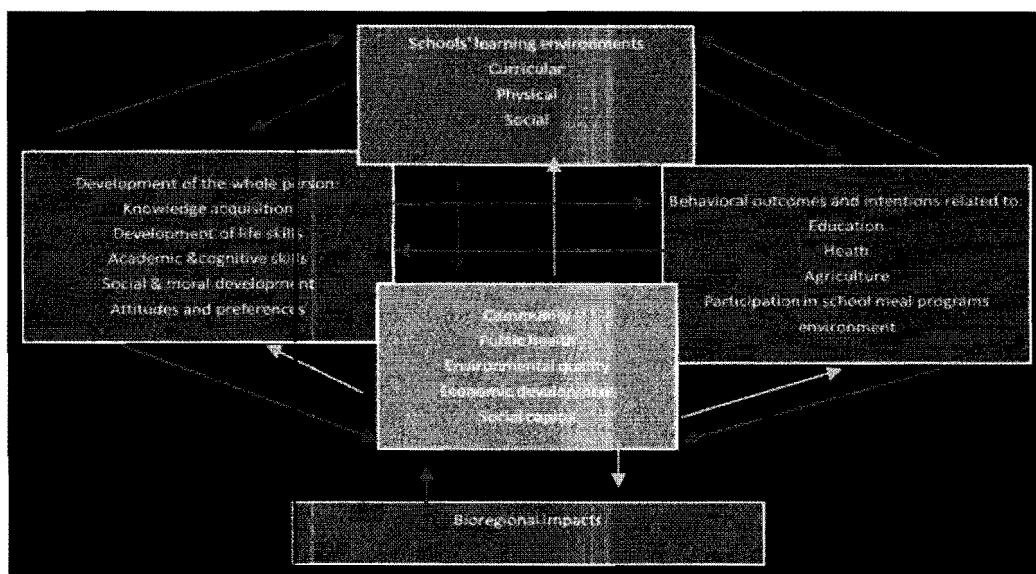
Lane Middle School, across the street from the Learning Gardens Laboratory, is a Title I school, with 83% of students qualifying for free or reduced-cost lunches. The student body speaks 27 languages, and many students and their families are learning English. These statistics make the school one of the most ethnically diverse and also one of the poorest schools in the Portland Public School District.

One of the most important community relationships the Learning Gardens Laboratory has nurtured is with Lane Middle School. This partnership brings more than 100 students from Lane to participate in gardening lessons every week. Students from the PSU Graduate School of Education partner with Lane teachers and faculty to develop a curriculum centered on gardening, nutrition, environmental science, and stewardship. Students plant, tend, harvest, and eat produce grown in the garden, while lessons in science, math, history, and social studies are woven among these tasks. Students receive benefits of an enhanced school learning environment, with the opportunity to spend time outdoors and get physical exercise. They learn about the history, cultural background, and botany of food crops as they grow and prepare them. The benefits of healthy eating habits and eating fresh and sustainable food are emphasized. Lesson plans used at LGL include elements of major Life Science themes from the Oregon Education Standards and Environmental Education Guidelines from NAAEE's Excellence in Environmental Education: Guidelines for Learning (Pre K-12) (Portland State University Educational Leadership and Policy, 2010).

Education in the garden provides students with hands-on lessons in many disciplines and speaks to different learning styles. It is an excellent resource for engaging English language learners or others who may struggle in the classroom. Learning in the garden aims to enhance environmental understanding and ecological literacy. It can improve focus by encouraging students to slow down and observe natural rhythms. This deepens their understanding of natural systems, fosters stewardship, and cultivates nurturing behavior. It provides a hands-on, real-world, participatory approach to learning, as opposed to simulation in the classroom. Students observe and participate in natural

processes all the way through. Michelle Ratcliffe's research demonstrates that school gardens enhance a school's curricular, physical, and social environment; that school gardens impact student behavioral outcomes and intentions related specifically to education, health, agriculture, participation in school meal programs, and the environment; that school gardens influence development of the whole person in school; and that the proliferation of school gardens has bioregional impacts related to public health, environmental quality, economic development, and social capital (Ratcliffe, 2007). The following diagram illustrates these networks of relationships:

### Model for Food and Garden-Based Education



Source: Ratcliffe, M .M. (2007).

Research is demonstrating that school garden programs can indeed promote academic achievement. Lieberman and Hoody (1998) evaluated experiential education focused on environmental issues and found that students in these programs outperform control groups by 92%. In a study of the Ecoliteracy Curriculum at Edible Schoolyard in

Berkeley, California, Murphy and Schweers (2003) found that students in the program showed significant gains in overall GPA, English, social studies, math, and science. Additional research shows that students who spend time gardening have improved attitudes towards fruits and vegetables and increased preference for fruit and vegetable snacks (Nolan, 2006).

Evaluative research by Ellen Skinner and her team, begun in January 2005 through the PSU Department of Psychology, focuses specifically on outcomes of the partnership between LGL and Lane Middle School and is some of the only high-quality quantitative research that exists on this subject. The results of the study thus far show that students pay attention, work hard, and are highly engaged in the garden and that those students who work hard in the garden also perform better in school. Student participation at LGL increases engagement both in science and school in general and also helps students to feel more connected to school. (See Appendix B for a summary of this yet-unpublished research material.).

Lane Middle School students who participate in garden education come from low-income and racially and culturally diverse backgrounds. This means that what they are learning in the garden does not necessarily translate to enhanced access to healthy, fresh, sustainable food at home. There are considerable barriers to low-income families' ability to access this kind of food, even as students learn about the importance of growing and eating healthy food in the garden.

## **Multicultural Family Learning Gardens Project**

### **Project Description**

This project is an intentional effort to bring the benefits of gardening and garden-based education to the families of Lane Middle School students, thus deepening the impact of the presence of the Learning Gardens Laboratory (LGL) within its immediate community setting. The purpose of the Multicultural Family Learning Gardens is to engage these families in developing and maintaining their own garden plot at LGL during the growing season. Through their participation, the deep and far-reaching impacts of gardening explored in this paper become available to an underserved demographic in Portland. Access to fresh and healthy produce will be improved, while new community bonds and leadership opportunities are built. LGL can provide a meaningful and safe environment for families to work together, problem solve, create beauty, and discover a deeper connection with the food system and the environment.

The Multicultural Family Learning Gardens widen the consistent and committed involvement of parents, children, and other Brentwood-Darlington community members at LGL, providing greater opportunity to incorporate their voices in shaping the future of the site. The generational, cultural, and socioeconomic diversity brought by supporting their presence will further develop the relationship of LGL with the neighborhood and enhance the holistic decision-making capacity at the site.

## **Project Priorities**

Since an important focus of this project is to reach out to involve a diverse group of community members, an excellent place to begin is with resources and assets already present within the neighborhood. This provides a base for recruiting gardeners and for promoting the project in the community. The primary asset in reaching out to families in the community is the existing relationship between Lane Middle School and LGL. Many families in the community are familiar with the gardens through their children's involvement at school. Other avenues for communication are connections with Lane Middle School students, teachers, and other school resources, such the Portland Parks and Recreation Schools Uniting Neighborhoods (SUN) programming at Lane and Lane's Program Hispano through Catholic Charities of Oregon. Additional neighborhood resources are Woodmere and Woodstock Elementary Schools and the SUN programs at each of these schools.

Another strong resource both in the community and on-site at LGL is the participation of volunteer Master Gardeners. These individuals, trained through the Oregon State University Extension Service, are experienced and knowledgeable in effective gardening methods and are committed to educating the public about successful gardening techniques. Working to use Master Gardener knowledge and energy to benefit families hoping to grow their own food at LGL is a key priority of this project.

Facilitating the collaboration of this diverse array of community members is the most important priority and indicator of success for the Multicultural Family Learning Gardens.



## **History of Multicultural Family Learning Gardens at Learning Gardens**

### **Laboratory**

Engaging neighborhood families in tending the land at the Learning Gardens Laboratory began in 2005, with the Farmers-in-Residence program initiated by Pramod Parajuli. Through grant funding, this program provided families from the Lane Middle School community with a wage to come and tend a garden at the Learning Gardens Laboratory. This provided economic revitalization and increased access to fresh, healthy foods for the community, and involved multicultural community members more closely with the Learning Gardens. Participants were able to work together in creating an alternative food system and produce culturally appropriate food for their families and friends. The Farmers-in-Residence program demonstrated to participants that agricultural skills they brought from their own countries were both valued and useful in Portland. A current family gardener, who participated in the program with his wife in 2005, reflects fondly on the cultural diversity present when asked about his favorite thing about gardening at LGL:

...meeting different people from different countries, and seeing what people eat in their home countries. I met Russians, Mexicans, I met Ukrainians, I met also people from Nepal, and Americans. I can't tell the names of the plants, but I remember Russians would harvest what I call weeds. Mexicans also have food they like, that for me is weeds. These kinds of discoveries." (A.M., personal communication, May 29, 2010).

Grant funding for the Farmers-in-Residence program expired, and since Parajuli left for Prescott College in 2008, unfortunately efforts to renew it were not made. However, some of the families continued to maintain garden plots at LGL and interact

informally with LGL staff. Until January 2010, there has not been a coordinated effort to recruit new families, provide them with resources, and educate them about growing food.

### **Multicultural Family Learning Gardens Coordinator Internships**

With changing LGL administration, in Fall 2009 Heather Burns stepped in as the PSU Coordinator. (See Appendix C for a description of the coordinator position.) She brought a new vision to involve the multicultural families of Lane Middle School students. The realization of this vision was planned through the creation of two Multicultural Family Learning Gardens Coordinator internships, in order to fill fundamental organizing and coordinating roles. Beginning in January 2010, Cate Clother and I applied and were hired for these internship positions. We adopted a slice of the gardens and tended the young seedlings of a community and land partnership, with an idea of what could begin to take shape with our nurturance. Our most important role was fostering the community collaboration that allowed elements of the project to unfold.

### ***Family Recruitment***

Two families gardened at LGL in the 2009 growing season, with limited support and direction provided by staff. Given the large amount of space available, LGL Site Coordinator Weston Miller and I determined that we had the space and resources to offer individual plots to 10-12 families from the Lane Middle School community and also to develop a communal gardening space.

After developing guidelines for the garden, designing fliers to advertise the opportunity, and creating an application form for the program, we began to work on

getting the word out to the community. A volunteer translator was recruited from the PSU Foreign Language Tutoring Program, and she helped to translate these materials into Spanish. We first worked primarily with the Schools Uniting Neighborhoods (SUN) Program, which provides after-school programming at Lane Middle School. The SUN Program employs a parent engagement coordinator who hosts family nights and parent coffees to reach out to families and get them more engaged in what's happening at the school. SUN staff helped us to get information about LGL in the school's take-home newsletter, provided ideas and support for distributing fliers, and spread the word about the opportunity. We also attended SUN family nights and parent coffee events to explain and promote the gardening opportunity. SUN staff assisted with collecting applications from interested families and also served as a contact about the program for families at the school.

PSU Garden Educators, graduate students who teach Lane Middle Schools students at LGL, also played an important role in recruiting families. They helped to distribute take-home fliers to Lane Middle School students, announce the opportunity to students, and identify students who said they thought their families would be interested. We also recruited a young woman from the neighborhood to participate in tending the communal garden area, through her connection to a garden educator and their mutual involvement with the Portland nonprofit Pangea Project.

Beginning in March 2010, SUN went through a transitional period in which the Lane Middle School site coordinator was promoted and moved to a different site. This resulted in a search for a new site coordinator and left the SUN Program temporarily under-staffed. It also left us without a solid contact to assist with continued family

recruitment. This led to a gap in our ability to reach out to Lane Middle School families through the SUN Program. In order to continue facilitating families signing up for garden space, the decision was made to widen the scope of our recruitment efforts to include Lane Middle School feeder schools Woodmere Elementary and Whitman Elementary. This decision allowed us to continue growing our pool of interested family gardeners, while keeping the fundamental intentionality of reaching out directly to families residing in Brentwood-Darlington. We recruited three families from Woodmere and Whitman to adopt garden plots, all with students who will be attending Lane Middle School in future years, and additional families to work in the communal gardening space. Once a new Lane Middle School SUN Program coordinator was hired, we again made contact with him and attended more scheduled family nights, with the happy result of more Lane Middle School families signing up for garden plots.

We were able to translate some of our materials concerning the gardens into Spanish, which achieved success in involving some Spanish-speaking families. Communicating to them what times the garden was open and other information continued to be somewhat difficult, but with the assistance of a staff person from the Program Hispano at Lane Middle School and phone calls made by other bilingual supporters of our project, we were able to keep lines of communication open.

In our recruitment efforts, we experienced difficulty reaching out to Russian, Ukrainian, Vietnamese, and other culturally diverse families learning English that have students attending Lane Middle School, which is likely partially due to our inability to translate materials into these languages. The gap in our communication with the SUN Program this year may have meant that we did not have the opportunity to get in contact

with other Lane Middle School staff members who could help reach out to different ethnic communities. In the future, generating funding for translation materials and identifying more bilingual and bicultural resources in the community to serve as conduits for passing on information will assist with inviting a wider audience of Lane Middle School families to garden at LGL.

Communication with interested families included challenges such as language barriers, lack of email, lack of clarity in some application information, and difficulty in communicating over the phone. Traveling to the garden by bus with small children, schedules that conflicted with our available hours, and poor weather were also roadblocks for some families in getting started.

PSU Senior Capstone students in Megan Hubb's *Sustainable Food Systems* course Spring term 2010 worked on identifying potential resources for translating materials for non-English-speaking gardeners and suggested the future development of gardening resources and LGL background information to provide to these families. This could be a promising project for future Capstone groups completing projects at the Learning Gardens Laboratory. (See Appendix D for family recruitment materials and Appendix G for family garden guidelines.)

### ***Garden Preparation***

In a project with very little monetary support, the value and importance of committed volunteers cannot be underestimated. Preparing the garden space for the implementation of individual plots required coordination with the varied groups present at the Learning Gardens Laboratory from January-May 2010. It also meant consistent

communication and collaboration with other LGL staff members, who frequently work to facilitate many visiting groups and were happy to plug in their efforts with this project. The involvement of volunteers was invaluable in creating a more productive and usable garden space for families. An important requirement of effective garden coordination is that the coordinator have a longer-term vision, while also remaining mindful of prioritizing what immediate tasks need to be accomplished in the garden. This allows for effectively directing volunteer efforts in a productive way.

I coordinated the efforts of *the Learning Gardens and Civic Affairs* Capstone course during Winter term 2010 in preparing the garden space, fulfilling desire of the students to “get dirty” and have more of a hands-on experience in the garden. During a group work day, I helped direct the class in mulching existing fruit trees and berry bushes in the Family Garden Space, raking away wood chips that had been laid on previous pathways in order to re-shape the space, building a new compost bin for the area from wooden pallets, and starting seedlings for families in the greenhouse. They were all enthusiastic about these tasks and worked productively in teams.

Another huge task in the Family Garden Space was removal of many weeds. In communication with Liana Harden, the LGL Volunteer Coordinator, we planned to have 14 visiting undergraduate students from the University of South Dakota work on the large job of clearing abundant weeds in Field E, the future home of the majority of the family plots. These students were visiting Portland for a week, working on various service projects connected to food security issues in the city. Their diligent and focused weeding in this area was hugely important in the preparation of the space.

In collaboration with OSU Extension Assistant Beret Halverson, we arranged for visiting 6th-grade students from Gilkey French American School to work on a focused service project in the Family Garden Space, by finishing weeding the plots. In the fall, this same group visited LGL and helped out with maintenance of the Family Garden Space. Continuing in this vein on their second visit and hearing updates about the program reinforced their understanding that this work was meaningful and important.

Beret explained to them in detail the importance of removing all parts of the weed, including the roots, and moving the pulled weeds from the garden space to the compost area. Students then selected appropriate tools and got to work. The combination of a beautiful day, the engaging hands-on morning they spent at LGL, and their excitement to participate in this service project led to a great deal of enthusiasm and enjoyment by these students surrounding the task at hand. There were 25 students, their teachers, a few parents accompanying the field trip, and LGL staff working for over 2 hours pulling and removing dead nettles, clover, and grasses from the space.

After measuring and marking each garden plot with Spring Capstone students, volunteers in a Saturday work party laid cardboard and wood chips on garden pathways and spread a thick layer of compost on each plot. Capstone students assisted with more weeding, as well as broad-forking and double-digging many of the beds, further preparing the space and demonstrating this gardening technique to their classmates. Garden Educator Tim Vogt also assisted with tilling in much of the rye cover crop that had been planted the previous Fall.

The enthusiastic collaborative efforts of volunteers and staff allowed for an amazing amount of work to be accomplished and for manageable plots to be provided to

families. Data collection efforts of Volunteer Coordinator Liana Harden leads to the ballpark estimate of 247 hours of volunteer time contributed towards the Multicultural Family Learning Gardens during the 10 weeks of Spring term!

Seedling starting by volunteer groups combined with a large seedling donation from the local nonprofit American Center for Sustainability, and many seeds donated to the Learning Gardens Laboratory by the local nonprofit Growing Gardens allowed for a sizable variety of free seeds and seedlings to be provided to families participating in the program. Additional seeds were also purchased from Territorial Seed Company. Varieties available to families this year were constrained by a lack of knowledge of what people would want and limited availability or low survival rates of some plants. We were able to offer marigold, nasturtium, onion, broccoli, cabbage, collard green, kale, tomato, lettuce, winter and summer squash, cucumber, watermelon, bush bean, calendula, pumpkin, and tomatillo seedlings. Seeds included carrot, squash, mustard greens, pepper, bean, corn, peas, spinach, onion, lettuce, and many types of flowers.

Our project inherited many seedlings planted by volunteers during a seedling workshop in January. The seeds were a random assortment of leftovers on hand at LGL, many of which were not appropriate varieties for planting at that time and died before they were able to be used by families in their gardens. Our best source of plants for families was a large donation of various varieties of seedlings from the American Center for Sustainability. But seedling survival was often uncertain due to pest outbreaks, vast temperature fluctuations, and intermittent and often incomplete hand watering while the plants were housed in the LGL's sagging greenhouse. LGL staff, Master Gardener volunteers, and Capstone student volunteers were crucial to any hope that these seedlings



would make it: We worked together in keeping them watered and potting them up as appropriate as they waited to be utilized by families.

The installation of irrigation was also important for the success of the garden throughout the summer. Through collaboration among myself, the site coordinator, and other LGL staff, we were able to purchase and install drip irrigation in each bed in a system that would water the majority of the plots at once. This watering system is more efficient than overhead hand watering, allowing for deep watering at plant roots. It also gives families the ability to have continued success in gardening throughout the hot, dry, Portland summer months without needing to be present every single day to water. A hose for hand watering is still available for gardeners to use to make sure no vulnerable plants are missed by the irrigation system. (See Appendix E for a map of the garden space.)

### ***PSU Student Involvement***

Work at the Learning Gardens Laboratory is hands-on and community-based. Many Capstone students expressed to me their excitement to have this opportunity to be active, spend time outside, and learn more about gardening and community outreach. As these students are nearing the completion of their degree, many were beginning to feel disenchanted by the classroom environment. Bringing university students into community settings emphasizes the importance of the surrounding environment on student development and brings life to issues and theories explored in the classroom. A basic assumption of fostering positive student development highlights that "...the total environment of the student is educational and must be used to help the student achieve full development" (University of Texas at Dallas, n.d., n.p.). Further, by involving

students in a growing movement to combine civic-mindedness with alternative agriculture, both citizenship and environmentalism can be promoted through common ties to place and physical engagement with that place (DeLind, 2002).

One challenge in working with Capstone students was the constraint of time. Determining shorter-term objectives with the Capstone instructor that benefits the longer-term scope of the project and could be completed in 10 weeks allows for meaningful involvement of students and gives them a sense of contributing something of high value, with adequate support and facilitation from their instructor.

The *Learning Gardens and Civic Affairs* Capstone course at LGL during Winter term 2010, taught by Judy Bluehorse-Skelton, was the Multicultural Family Learning Gardens' first source of volunteer energy. In communication with Heather Burns, the deliverable of their Capstone project was binders of educational gardening resources to be provided to participating families. I assisted with this effort by presenting the class with some background information about the project and acted as a contact person for any questions or ideas they had surrounding this effort. On the last day of class, after a celebratory potluck, they presented to a group of LGL staff and community members the family binders, which contain information based on themes they explored in class as well as a topics researched by collaboration of smaller groups of students. These unique and colorful binders are full of valuable information about garden planning, composting, planting, maintenance, harvest planning, recipes, and places to look in Portland for additional resources.

The *Sustainable Food Systems* Capstone at LGL, taught by Megan Hubbs, also worked on elements connected to the Family Garden Project during Spring 2010.

Collaboration with this capstone was more open-ended, without a clearly set objective for Capstone student involvement and without initial substantive communication with the instructor. The hope was that a group of interested students would become involved with aspects of the project during drop-in volunteer times, and then potentially develop a smaller-scale deliverable, in communication with LGL staff. This strategy ended up being a source of frustration for students, with some voicing concern mid-term that their involvement did not feel meaningful. It was difficult for the group to self-organize, and detailed coordination of their efforts was challenging for me to manage on top of many other responsibilities connected to this project.

The experience of working with one Capstone group that worked well and one that worked less smoothly has provided good opportunity for reflection on what works for adult learners in a community setting. It has provided me with the challenge of helping Capstone students to feel that their experience during Spring term was worthwhile, despite initial feelings of uncertainty. Usher's (1985, cited in Tenant & Pogson, 1995) work on experience and learning argues that the development of reflective skills is considered key to the acquisition of the skills, attitudes, and attributes that make learning from experience possible. Conducting a meeting with students allowed us to discuss their concerns, provide perspectives from staff about the worth of their efforts in a longer-term context, and to offer support in their development of planting and translation projects. Through this we hopefully stimulated more reflection on their role and more clearly communicated our appreciation of their efforts. In this meeting, we determined that some of the group members would continue volunteering their time to

work the land and some would work on translating some written materials into various languages for families.

At the end of Spring term, I asked the Capstone students I worked with to provide responses to some reflection questions about their involvement with the project. (See Appendix F for Capstone student survey questions.) Here are some of my questions and their responses:

*Please take a moment to explore your role with the Lane Family Garden project. How did you feel your role was meaningful?*

“At first I felt my role wasn’t meaningful to the project, because I mostly spent time weeding and preparing the land. But after speaking with Madelyn and thinking about the process further I realized that this was a very important part of the project.”

“I lent support in preparing plots for the family gardeners, as well as tending to plant starts. I also worked on designing a plot intended for community space for the project.”

*Did this work connect to your Capstone? What elements seemed most pertinent?*

“This work connected to my Capstone in that I was able to implement the gardening techniques I learned as well as learn by observing the process of what it takes to start and manage a community garden program.”

“This project was connected to my capstone. I feel the community garden aspect of the project corresponded with our capstone. In the capstone we talked a lot about getting low-income areas affordable, healthy food and this project focused primarily on that.”

*Can you share any ways your experience with the Learning Gardens has connected to your own culture, or enhanced your understanding of cross-cultural communication?*

“I think how separate I sometimes feel from other cultures. Working towards something that includes all cultures is very important!”

“I have renewed my interest in farming thanks to this capstone and the family garden.”

“Working the plots really brought me closer to the land.”

*In what ways could the experience of future capstone students be improved in projects at LGL?*

“Give them more responsibility and direction.”

“Meet as a group once per week for ten minutes. There needs to be a vision/long-term goal set in the beginning and then touching base on that goal and brainstorming weekly would be a big unifier.”

Based on the experience of working with two Capstone classes over the course of this project and on the Spring Capstone’s reflective comments, the necessity of establishing clear goals and roles was demonstrated, a process which may be best developed in close communication with Capstone instructors. Capstone involvement Winter term worked well, with students given the ability to work collaboratively together with ample support from their instructor and more limited input from busy LGL staff. As a student suggested, for successful integration of the students into LGL projects, the goals for Capstone involvement need to be clearly set in the beginning, with clear communication and support from the Capstone instructor,.

### ***Garden Education for Families and Development of the Garden Mentor Program***

To accommodate our family gardeners and for the purpose of collaboration and communication among staff, we chose drop-in times based on existing drop-in volunteer hours and times that other Learning Gardens Laboratory staff would be present. During our drop-in times on Tuesday, Thursday, and Saturday afternoons throughout May, we were able to facilitate families in getting oriented, choosing plot space, planning pathways and planting space, choosing plants, and getting started in planting.

Families who adopt garden plots at the Learning Gardens Laboratory are given the option of developing a relationship with experienced Garden Mentors, volunteers drawn from the OSU Extension Service Master Gardener Program. These volunteers have gone through significant gardening training, have volunteer requirements to fulfill for their certification, and are recruited to help share their knowledge and assist a family with support and information to help them achieve success growing their own food. The development of the Garden Mentor Program offers an opportunity to build beneficial, integrative relationships at LGL.

The original vision of the Garden Mentor Program was to recruit potential mentors and find out their background and interests. After getting to know families and their varying gardening skill sets, needs, interest in having a mentor, and communication styles, we planned on pairing interested gardeners with mentors. Six Master Gardeners and Master Gardener interns filled out applications for the program; most had a background in growing vegetables, berries, and fruits and some had experience working in community development and food-centered projects.

The timing of all of this meant that interested mentors were recruited as we were also recruiting families. Communication with mentors was much easier and more fluid: Most were familiar with computers, so emails whizzed back and forth easily to communicate invitations, dates, times, updates, and other information.

Without a clear picture of the number of families who would be able to commit to adopting a garden plot, pairing people with mentors proved to be difficult in the early Spring. We also had tables full of seedlings, whose abundance was based on gross estimates of how many families would be involved. When families arrived, we were anxious to help them get as many things planted in the garden as we could, so the seedlings would have the chance to survive, thrive, and feed people.

A particularly extended cold and wet Spring through the month of May led to a continued small turnout of families, and having no way of predicting who would show up during our drop in-hours made structuring initial meetings with mentors and families challenging. Also, our ability to staff drop-in hours was limited, and coordinating mentors and families to meet within these time frames was difficult. One volunteer who applied to be a mentor consistently came to our drop-in times to check in and help out. She was instrumental in her assistance with additional recruitment efforts at Woodmere and Whitman Elementary Schools, dropping off fliers, and talking with SUN staff. One of the families she helped to recruit was an English-speaking family with lots of questions. She was present when they came to get their garden plot and begin planting, so this Garden Mentor-gardener relationship blossomed quite organically.

In an interview with this mentor, she explained that her attraction to this volunteer position is based in her love of gardening and enjoyment of sharing gardening with

others. She meets the family at the garden and helps them hands-on with whatever they're doing and does her best to answer their numerous questions. She also frequently brings them supplemental information – for example, on the day I interviewed her, she brought reading materials on worm composting and companion planting, based on questions that came up. She also frequently emails them information about books and other resources. They initially met about twice a week; now that most things are planted they meet about once a week. In describing what the process of developing this relationship with a family has been like, this mentor tells me, “Their enthusiasm is so inspiring, I’ve really enjoyed working with them, they’re so hungry for information on gardening, and avid, they dive right in! They are so highly dedicated – that has been a welcome surprise...My favorite aspect of serving as a garden mentor has been] getting to know the family and their kids and sharing a love of gardening. Also there’s been a lot of learning on my end – needing to articulate things challenges me, and they ask some really good questions!” (M. M., personal communication, June 24, 2010).

With gardeners continuing to sign up through May and June, we continue to have families that could benefit from a mentor relationship. Summer open times at the gardens expanded on June 15, allowing for more time throughout the week for families to work in their gardens. We also changed our staffed drop-in times to later in the evening, to facilitate more working people’s schedules. I decided to give interested mentors and families each other’s phone numbers to let them plan initial meetings at the gardens that worked with each other’s schedules, based on our open hours. These relationships are continuing to develop, and garden coordinators of the project will collect participant’s feedback for improvement of the mentor program next year. (See Appendix H for Garden



Mentor recruitment information; Appendix I for the Garden Mentor position description, application, and guidelines; and Appendix J for the Garden Mentor interview questions.)

### **Family Gardener Profiles**

The following details surrounding a sample of participants in the Multicultural Family Learning Gardens are based on interview questions that can be found in Appendix K, and through informal interactions and observation of participants by the researcher. All respondents were families I observed making a consistent and committed effort to tend their plots, and all of them live near enough to the garden to walk or bike. All respondents commented on feeling very safe at LGL, and feel that the program has been very accessible for them. Everyone interviewed is also most looking forward to eating tomatoes from their gardens!

#### **Radna**

Radna was one of our first family gardeners to sign up. She was recruited from a SUN parent coffee event. She has not gardened before (although her husband does have some gardening experience) and tells us that her yard is too shady to have a garden. Her family is new to the neighborhood, and she lives only a few blocks from the garden. This enables her to and bike over after school with her three children. Her daughter is in the 6th grade at Lane Middle School and participates in garden lessons at LGL, and Radna first heard about the site through her daughter's involvement. Her family works together in planning, planting, and tending to the garden plot, and they come nearly every other day to check in, work, and relax in the garden. Hers is one of the most beautiful gardens,

with voluptuous cabbage, delicate cosmos flowers and perky peppers. In a short interview with her, she tells me that her favorite aspect of working in the garden is the chance to spend time with her children, and also the help she receives from LGL staff. "...the help makes it so easy, so comfortable to do" (R. M., personal communication, May 27, 2010).

Radna was born in Indonesia and her parents and other family members still live there. Working in the garden with her children reminds her of her parents in Indonesia, who always maintained a home garden, and how much she misses them. Spending time in the garden also invokes memories of traditional food from her country. "We have, at home in Indonesia, [a fruit called] star fruit. I used to just eat it right there in the garden, growing up. Now when I have star fruit here, the taste isn't even close" (R. M., personal communication, May 27, 2010).

### **Adama**

Adama is a father who immigrated to this country from Senegal with his family. He has maintained garden space at LGL for the majority of the 5 years he has lived in Portland. He plans to continue gardening this season as well. He originally worked in the garden with his wife, through their involvement in the Farmers-in-Residence program. His daughter and now his son have been students at Lane Middle School, and have participated in garden education at LGL through school. Gardening has offered him the opportunity to grow traditional and culturally appropriate foods – one of which is edible hibiscus, which in Senegal is called *bissap*. "My favorite food is rice and fish with hibiscus on top; I ate both in Senegal and then again here" (A. M., personal

communication, May 29, 2010). He shares produce from his garden with friends in the Senegalese community in Portland, as well as with co-workers and family.

Gardening connects Adama with cultural traditions from his home country. He describes how organic composting methods and mulching strategies employed at LGL reminds him of home: “One day I was having a group of students and I was telling them how in my home country, my own tribe, how they grow rice. When they weed, they do not take weeds out of the area, they put it under and put the ground on top of it, and then the next year they change it. It’s kind of giving the plants a better life, fertilizer. It’s a natural wonder” (A. M., personal communication, May 29, 2010). Adama’s experience in the garden also reminds him of his family in Senegal, some of whom are farmers. His father grows rice, millet, cassava, oranges, mangos, tangerines, and peanuts in Senegal. “One year I tried to grow peanuts here, but there wasn’t enough heat” (A. M., personal communication, May 29, 2010).

When asked about why he decided to cultivate a garden at LGL, he explains that he does not have the space for gardening in the apartment complex where he lives with his family. “For me, having a spot to garden, with all the safety it has, I think it’s important...I enjoy especially having fresh food, food I select to plant for myself. Being able to have that is a great achievement” (A. M., personal communication, May 29, 2010). He feels particularly safe in the garden, and enjoys bringing his children to there.

Adama’s involvement at LGL has connected him with many different PSU students who have been engaged at the site. “...Meeting different people – watching students having their hands on, that’s something. Coming from a poor country, most students, at several levels of education, they do not have to put their hands on, or touch

anything. But here, graduate students have their hands on, it's amazing" (A. M., personal communication, May 29, 2010). He has enjoyed his experience interacting and collaborating with university students. He says, "It's good to come here, with students showing good leadership, knowing how to treat people" (A.M., personal communication, May 29, 2010).

### **Bonnie**

Bonnie is another new gardener this year. She has lived in the neighborhood for 28 years and worked as a secretary at Lane Middle School for several years. She is now retired, and her grandson, who is also her foster child, attends 8th grade at Lane. She found out about the opportunity to have a garden plot through discovering the announcement in her grandson's backpack, a few weeks after it had been sent home.

Bonnie has always had a backyard garden. Running out of space in her own yard was part of her decision to seek out having a plot at the LGL. Involving her grandson was also part of her choice to garden with us. She says, "I thought it would be good for Morgan, my grandson. He's had a great deal of difficulties, and he's doing it, I'm surprised! So there's that bonding thing. And accomplishment for him, too" (B. R., June 3, 2010, personal communication).

Working and spending time in the garden strikes many chords for Bonnie. She tells me, "I just like the smell of the dirt when it's wet. I like to see things grow. I like the feeling of producing my own food. I think it's cool to get things and put them in a wagon and take a picture of it. It makes me feel...maybe accomplished and that I'm doing something" (B. R., June 3, 2010, personal communication).

Gardening also brings back memories of the social value of gardens in her community throughout her childhood. “When I was a little kid we lived in the Coast Range of Oregon, everyone would always comment about other people’s gardens and that they looked beautiful, so it was a reflection of good management, of a good manager in the household, and of accomplishment...going to people’s houses and hearing people comment on gardens, you know, people say things like that to a child and it becomes your mindset, that it’s important to have a good garden because everyone else’s looks good” (B. R., June 3, 2010, personal communication).

“When I was really young my mother had a very big garden...that’s where we had all the vegetables, she had little tiny kids and we never worked all that hard, the chores and the whole shebang, I don’t quite know how she did it! It was a necessity to garden growing up. She grew the normal [crops]...beans, corns, peas, tomatoes, carrots. I don’t ever remember her doing lettuce or things like that. She canned out of the garden. I’ll have to ask her what else she grew. Maybe my dad did more than I realized, too. We did spread fertilizer on the garden from the barn” (B. R., June 3, 2010, personal communication).

Bonnie appreciates the opportunity to expand her knowledge through her participation at LGL. “I’m learning things, about garlic, and I heard you say something about planting onions with other plants...and the tomatillos, I’ve never planted those before. So introduction to new plants, mustard greens, too. And I’ve never gardened organically before, I mean I still get bugs at home, my cucumbers at home are dying, I don’t know what’s wrong with them! But it’s a different mindset” (B. R., June 3, 2010, personal communication).

### **Amanda, Rigo, and Sons**

Amanda, Rigo, and their three sons are another family engaged in gardening with us this year. They are new to the neighborhood, and the three sons all attend Woodmere Elementary School. The family started a vegetable garden in their yard last year, and on seeing fliers posted at Woodmere about the gardening opportunity at LGL, felt it was an excellent chance to learn more about successfully growing their own food. They live only a few blocks from the garden and walk over when the weather is nice. Mom, Dad, and the three boys frequently all work together in the garden, and the parents appreciate the opportunity to engage their children in the process of helping to plant and tend the garden. Rigo tells me that he struggled in school and feels he would have benefited from having more hands-on, experiential learning opportunities, and wants to provide that for his sons.

Gardening connects Amanda and Rigo with a sense of lost culture, something they hope to regain through tending the soil: “[The most enjoyable part of working the land is] getting back to our roots. I feel like that’s what man was designed for, to work with what we’re provided with...Our ancestors used to work the fields, grow their own crops, it reminds me of how difficult it was...it’s so easy to just go to a grocery store, too convenient. It’s nice to go back to your roots, your ancestors, see how they used to work the land. For me it doesn’t remind me of anything in my childhood-I wished we lived on a farm, had a garden, grew everything on our own...my family was pretty modernized” (A. S. & R. S., personal communication, June 10, 2010).

Amanda and Rigo appreciate how gardening brings an intimate knowledge that their food is safe: “[It feels good] to know we’re eating what we grow, knowing where it comes from, that it hasn’t been sprayed down with a bunch of chemicals” (A. S. & R. S., personal communication, June 10, 2010, personal communication).

Amanda and Rigo take pleasure in the support received and opportunity to learn new things at LGL: “[We most enjoy] learning different techniques, different varieties of plants. People’s info, insights, expertise...The chance to learn stuff we don’t know...it’s one thing to research it, but getting hands-on experience...everything was set up for us, that was pretty nice, [there were] already plots” (A. S. & R. S., personal communication, June 10, 2010, personal communication).

## **Anna**

Anna is a young woman who just graduated from high school and is planning to attend PSU in the fall. She works for the SUN program at Woodmere Elementary School and she discovered our program through a flier she came across at work. Due in part to political instability, her family immigrated from Kyrgyzstan 12 years ago. She enjoys the diversity of her neighborhood and tells me, “Here there are a lot of different cultures, and it kind of raises your awareness” (A. K., personal communication, June 17, 2010).

Anna doesn’t have any background in gardening and, despite her family’s incredulousness, was excited about the opportunity to adopt a plot at LGL. She appreciates the support and structure provided, remarking, “You have a lot of stuff here, everything, and the support. Because it’s really intimidating to start something at home, when you don’t know what in the world you are doing. And here people are always here

to help and lend a hand, or some supplies. And everybody is really nice” (A. K., personal communication, June 17, 2010). She is also able to easily bike or walk to the gardens from her home, and frequently brings her younger sister to garden with her. She plans to share what she grows with neighbors, some of whom she says are hungry and do not get enough to eat.

Gardening connects Anna with a sense of tradition and memories from her home country. Working in the garden reminds her of her grandmother and the land in Kyrgyzstan: “My grandma, when I was little, she used to garden a lot. I enjoyed it. I was about 5 ½ and I remember her garden, I remember it was one of my favorite places to hang out, because I had a little fort there and a pool with rocks...and hundreds and hundreds of cherries! I would play dolls, too, in the springtime in the potato fields.... There is a lot of farming there and a lot of fresh fruits and vegetables; and it’s a really nice climate for gardening, just because you have the rain in the spring that comes in, and then it’s a really hot and nice summer, so you get a lot of nice crops there. The border is China, and a lot of crops are brought in from China” (A. K., personal communication, June 17, 2010). Gardening also provides her with some solace from pressure in her life: “[I most enjoy working the land because] it’s really calming. You’re usually so busy with things, like work, homework, and so you’re really stressed out. But when you come here its quiet, you don’t really have to worry about anything” (A. K., personal communication, June 17, 2010). Gardening also represents for Anna and her family an opportunity to connect with a more ecologically friendly lifestyle.



## **Summary**

My conversations, interviews, and interactions with these families help to illustrate the impact, meaning, and worth of this work. I am deeply appreciative of their willingness to share with me, and am moved by their thoughtful responses to my questions. Each respondent remarked on their appreciation of the sense of community they felt LGL, their enjoyment in working with students present, and the accessibility to resources and information they found. The positive cross-cultural interactions that occurred through this project between university students and community members is a powerful and hopeful example of community collaboration, and speaks to the value of the unique mixture of groups and partnerships at LGL. The responses of these gardeners demonstrate that the Multicultural Family Learning Gardens serves those the program reaches well, and these successes can be amplified in future years.

## CHAPTER 5

### CONCLUSION

The Multicultural Family Learning Gardens at the Learning Gardens Laboratory enhances the local food networks within the neighborhood, is a site for ecologically-based education and community collaboration, and provides meaningful opportunities for civic engagement. This garden holds the potential to be a powerful component of community resilience in the Brentwood-Darlington and Lane Middle School communities. My observations, conversations, and interviews with participating families in 2010 reveal this garden as a site that allows for access to fresh and healthy produce. It allows for the expression of traditional skills and cultural heritage of community members, and engagement with a sense of culture, tradition, and connection to the land. Adama's cultivation of *bissap* demonstrates the garden's power to allow for preservation traditional species and varieties.

The Multicultural Family Learning Gardens is a place that fosters a sense of commitment, accomplishment, and responsibility. In tending their plots, families demonstrate a developing commitment to place and share a feeling of collective achievement and pride in their work. Their words speak to the social and emotional benefits provided through gardening, including opportunities to meet neighbors, learn from others, and spend time with family in a beautiful, safe, relaxing, and productive setting. Engaging these families at LGL provides a safe place to work, play, and learn about nature together.

The garden cuts across social, economic, generational, and racial barriers, bringing together people of all ages and backgrounds. It also offers opportunities to build

relationships across barriers. The 12 families involved in the Multicultural Family Learning Gardens thus far in 2010 represent diversity and community collaboration among people from a wide range of backgrounds and experiences.

The Family and Multicultural Garden provides a place for families to learn about organic gardening methods and to grow fresh, healthy food to eat and share. This foundational knowledge will serve these families in their future gardening endeavors. Work in the garden may inspire adults and children to continue to learn from and engage with the living soil and the biotic community and to re-connect with traditional skills and knowledge. This garden brings university students, master gardeners, parents and children together to work and learn side by side in a setting that expresses the fundamental goals of an ecologically-based education.

The presence of 2 coordinators has been instrumental in engaging diverse families at LGL. These staff members provides community outreach, serves as a contact person for involved families, and can act as a voice for these families in communication with other staff members. Continued garden coordination will be essential for the future development and growth of this work. The unique structure of the Learning Gardens Laboratory allows for the development of a strong community ethic and collaboration across many boundaries, which can serve as an invaluable resource for multi-cultural families in the neighborhood.

The importance of partnerships in the success of the growth of this garden project cannot be underestimated. The partnerships present at LGL allowed for the broad community collaboration that occurred in the Family and Multicultural Garden. Public school students, university students, and community members from a broad range of

backgrounds and experience came together in the garden, and this was possible only through strong partnerships that stretch across boundaries and disciplines.

I hope that my honest sharing of this work will serve to strengthen the involvement and voice of the Brentwood-Darlington community at the Learning Gardens Laboratory, and inform similar garden-based endeavors that improve food access and seek to incorporate traditional skills and multi-cultural perspectives for underserved residents throughout the country.

### **Future Recommendations**

Here I provide recommendations based on my experience, with the hope that future coordinators of the Multicultural Family Learning Gardens can build upon and improve this program. I also hope these recommendations can assist garden coordinators engaged in the growing food justice, ecological education, and community food movements throughout the country, particularly those working with multicultural populations.

1. Discovering and building on community resources that are already present in a given neighborhood is the first place to begin. Develop and increase communication with neighborhood resources about the program. This may serve to:
  - o Enhance recruitment of gardeners.
  - o Develop business partnerships and potential donation solicitation.
  - o Increase visibility of the program in the community.
  - o Assist with fundraising needs.

2. Enhance strategies to incorporate and support community members learning English.

- o Identify and collaborate with multicultural and multilingual resources within the community.
- o Generate funding for translation materials.

3. Engage participants as much as possible in future planning of garden design and expansion. This process will likely take more time and patience, but will create a greater sense of ownership among participants.

4. Enhance development and coordination of educational workshops for families. (See Appendix L for materials already developed.)

- o Cover a range of seasonal topics to enhance knowledge of organic gardening techniques and bring gardeners together, building community.
- o Find bilingual resources to assist with translation needs.
- o Coordinate time for gardeners to share recipes, learn about canning and other strategies for preserving the garden harvest, and enjoy food together when kitchen space is accessible.
- o Plan for child care options during these workshops.

5. Empower participants to take leadership roles in the development of the gardens.

- o Develop a garden committee, which includes members who represent the gardens' diverse stakeholders and meets periodically.
- o Discussing and planning garden design, garden events, and other topics surrounding the garden are examples of relevant garden committee concerns.
- o Plan for child care options during these meetings and schedule them outside standard work times, to facilitate greater participation.

6. Continue developing a strong garden mentor program:

- o Link garden mentors with gardeners early in the growing season.

- This timing allows garden mentors to lend a great deal of assistance in helping families choose what to grow, design their spaces, and help communicate with coordinators what varieties of plants should be procured.
- Facilitate garden planning sessions on-site for mentors and gardeners.
- Facilitate communication and support within the group of garden mentors.
- Communicate clearly what resources will be available, when possible.

7. Plan and promote events in the gardens, such as work parties, garden parties, and harvest sharing:

- Bring gardeners together to meet and get to know one another on a regular basis.
- Bring the wider community into the gardens.
- Engage volunteers and gardeners in projects to enhance the gardens, such as:
  - A kiosk to serve as a site for passing on information.
  - Benches and places to rest, relax, and socialize in the garden.
  - Making the gardens child-friendly: Incorporate space for children to play in view of gardening parents.
  - Designing and implementing murals and signage for the gardens.

8. Provide times to garden that are accessible to working families.

- Include weekend and evening drop-in hours.

9. Recognize and communicate appreciation for volunteers and organizations that contribute to the success and continuation of the gardens.

10. Plan for development of future integration of Capstone students into the Multicultural Family Learning Gardens:

- o Informal Capstone involvement may be the planning of a few group work days in a term, to complete garden projects that require many hands.
  - o Weeding, path maintenance, mulching, edging, and other tasks are informal ways Capstone students can make a valuable contribution to the garden, gain hands-on gardening experience, and foster a sense of accomplishment.
- o Formal Capstone student involvement may be a research or community-based project with a planned deliverable that students can work together on throughout the term.
- o Plan for a visioning meeting with Capstone instructors before the term begins.
  - o In this meeting, it can be determined what level of formality student involvement with the project will be.
- o If a more formal project is determined:
  - o An in-class garden coordinator check-in with Capstone students surrounding their involvement and progress will enhance communication and potentially provide needed direction and feedback for students.
  - o A feedback/reflection session at the end of the term can also contribute to the improvement of Capstone integration into this project.

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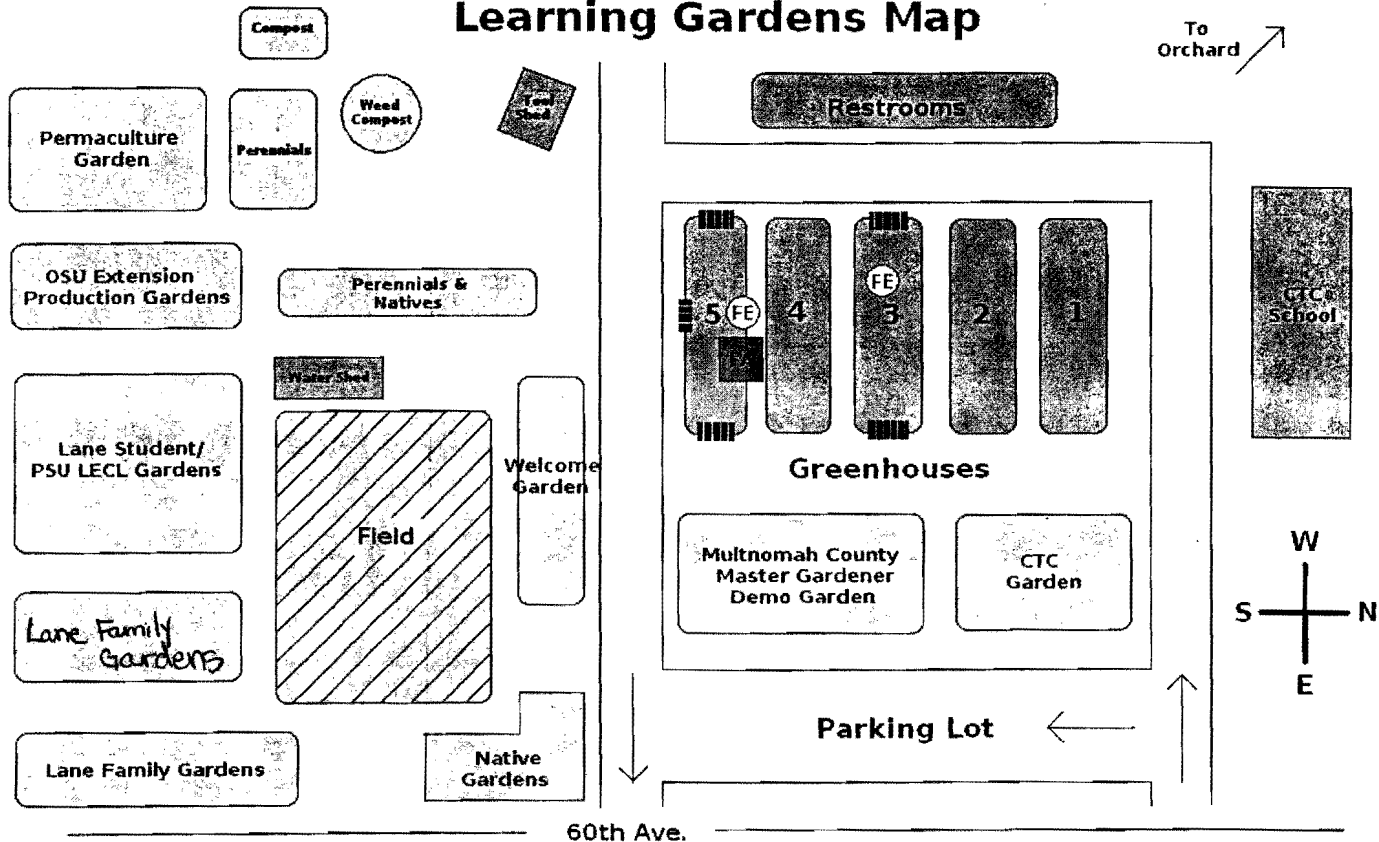
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APPENDIX A  
2010 Map of Learning Gardens Laboratory

# Learning Gardens Map



- |   |   |
|---|---|
|  First Aid Kits    |  Emergency Exit          |
|  Fire Extinguisher |  Emergency Meeting Point |

APPENDIX B  
PSU and LGL research material  
**LEARNING GARDENS LABORATORY AT LANE MIDDLE SCHOOL**  
**A Collaboration with Portland State University**

Any questions? Please call the Evaluation Team Leader  
Dr. Ellen Skinner at (503)725-3966 or e-mail at [ellen.skinner@pdx.edu](mailto:ellen.skinner@pdx.edu).

**Overview.** The Learning Gardens Laboratory (LGLab) at Lane Middle School has been enthusiastically supported by Principal Karl Logan, Vice Principal Teresa Sing, teachers (especially science teachers), parents, and students since it began in January 2005. Everyone is very proud of how well it is going. However, as with all programs in public schools, having enthusiastic support is not enough: ***It is important to look at what the program actually does for students, to figure out why it is working, and to find ways to improve it.*** Evaluation research to answer these questions is being carried out by Lane in cooperation with an inter-disciplinary team of Portland State University faculty and students.

The evaluation has three goals:

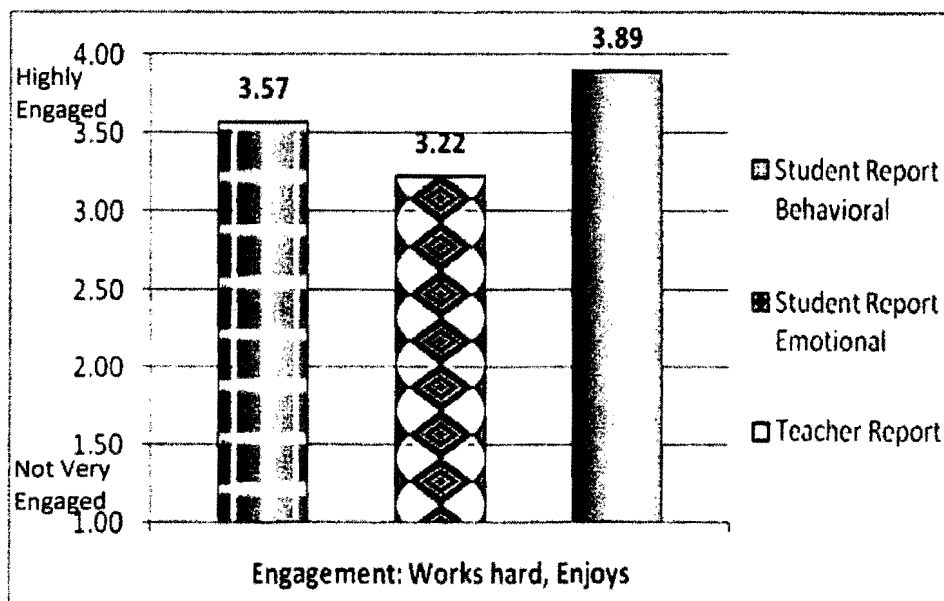
- To document teachers' and students' **experiences** with the Learning Gardens Lab.
- To see whether the LGLab has an effect on students' **learning and achievement**.
- To examine **other outcomes** of the LGLab, for example, its effects on how hard students work in Science or at school in general, and how connected they feel to school.

We have been collecting information from students and science teachers via surveys, and from school records about student achievement. Findings are being used to improve the ongoing program and to help get additional support for the Learning Gardens Lab. Here are a few of the important questions, and the encouraging answers we have so far.

### 1. Do students work hard in the Learning Gardens Laboratory?

The LGLab require students to work hard and to focus on learning, both in the Science classroom and outdoors in the gardens. We asked teachers and students to provide information about whether students pay attention and work hard, and whether they enjoy their work in the classroom and the LGLab. Here are the results:

**The answer is a definite "YES," students work hard *and* have fun in the Learning Gardens Laboratory.**



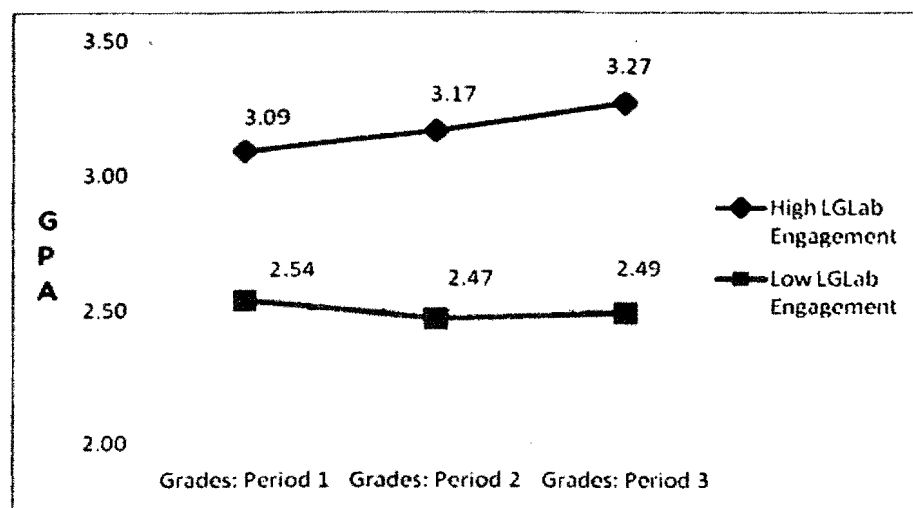


## APPENDIX B

PSU and LGL research material

### 2. Do students who work hard in the LGLab also perform better in school?

Working hard in the Learning Gardens Lab pays off for students: They learn more and they get better grades in school. We divided students into groups based on how engaged they were in LGLab activities. Students who worked harder in the LGLab also did better in school. In fact, students who work harder in the Learning Gardens Lab learn *more* over the school year.

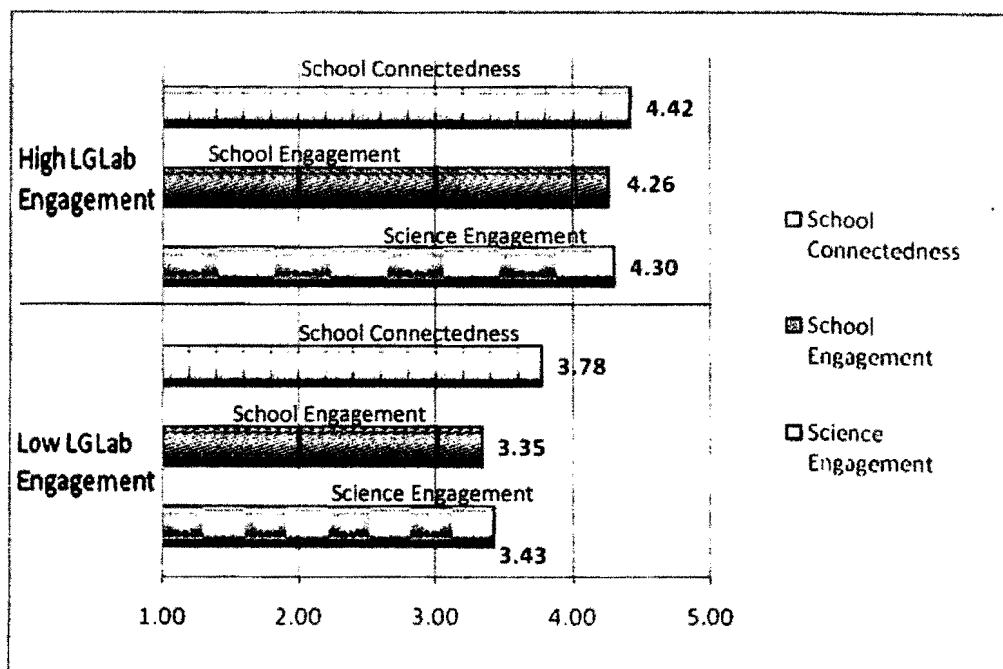


**The answer is "YES," students who work harder in the Learning Gardens Laboratory also perform better in school.**

### 3. Are there other good effects of engagement in the Learning Gardens Lab?

There are many: For example, engagement in the LGLab leads to more engagement in science and school in general, and helps student feel more connected to school.

**The answer is "YES," students who work hard in the LGLab work harder in Science and school in general, and also feel more connected to school.**



We look forward to letting you know more about our evaluation efforts in the future.

**We appreciate your cooperation with the Learning Gardens Lab and our evaluation team.** With many thanks, **The Learning Gardens Lab Research Team.** Faculty: Ellen Skinner, Thomas Kindermann, Heather Burns, Dae Yeop Kim, Pramod Parajuli, Dilafruz Williams; Students: Lorraine Escribano, Una Chi, Jennifer Pitzer, Shouna Mahara, Justin Vellat

APPENDIX C  
2010 Family and Multicultural Garden Coordinator  
Position description

- Develop guidelines, structure, and needs for program success, in communication with other Learning Gardens Laboratory staff.
- Work with Lane SUN School staff and other community resources to recruit families.
  - Talk with families at Lane Middle School events.
  - Build relationships with Lane staff, SUN staff and Lane families.
  - Develop multi-lingual fliers and promotional materials.
  - Distribute announcements to families via Lane newsletter, phone calls to families by SUN staff, and fliers to middle-school students visiting LGL.
- Determine each interested family's knowledge level, experience with gardening, and assess whether translation services are needed.
- Prepare land for gardeners, including any necessary tilling, marking off and clearing garden beds.
  - Coordinate volunteer group work parties to assist with this effort.
- Order seeds, supplies for starting seedlings in the greenhouse, and plants for Lane Family Learning Garden.
  - Coordinate care for plants in collaboration with other Learning Gardens staff.
- Establish drop-in gardening times; Communicate with families times the garden is open.
- Be present for drop-in family gardening times; assist families in getting started.
- Begin establishment of a Garden Mentor program:
  - Develop Garden Mentor Guidelines.
  - Recruit Garden Mentors from Master Gardener volunteer pool.
  - Match mentors with gardeners.
  - Facilitate communication among mentors and families.
- Coordinate University Studies capstone involvement; meet periodically with the class to ensure smooth integration of their efforts.

**FREE!**  
**Gratis!**

## **Garden Plots Available for Families of Lane Middle School Students at Learning Gardens Lab!**



ct

Madelyn Morris,  
Family Garden  
Coordinator, at  
(503) 867-4528  
Email:  
[Madelyn@pdx.edu](mailto:Madelyn@pdx.edu)

- Gardening Workshops!
- Experienced Garden Mentors!
- Group Work Parties!
- Seeds, Tools, and use of Greenhouse provided!
- Come Grow Food and Make Friends at the



Learning Gardens!

Oregon State University

APPENDIX D  
Family recruitment materials

**Lane Family Garden Application Form**  
**Learning Gardens Laboratory, SE 60<sup>th</sup> & Duke**

Name(s) of Gardeners: \_\_\_\_\_

Grade & school of student: \_\_\_\_\_

Number of people and ages in Household: \_\_\_\_\_

Language(s) Spoken: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone number: Day \_\_\_\_\_ Evening \_\_\_\_\_

Email: \_\_\_\_\_

Please Mark the Following:

- ☐ This is my first year at this garden
- ☐ I would like a garden next to a friend, Name \_\_\_\_\_
- ☐ I have gardened here before

- I have gardened before at (where?) \_\_\_\_\_

How many years have you been gardening? (Please circle)

none          1-2 years          3-5 years          6-10 years          10 years or more

What are you most interested in growing? (Please List):

---

---

How far do you have to travel to the garden? (Please circle)

1 block          2-6 blocks          6 blocks to a mile          over one mile

(over)

APPENDIX D  
Family recruitment materials

What is the best time to schedule social events, gardening workshops, and/or work parties at the garden? (please circle)

AM

PM

Weekday

Weekend

Specific Days/Times you are available: \_\_\_\_\_

\_\_\_\_\_

I am interested in having a garden mentor: (please circle)

Yes

No

I am willing to commit to taking care of a garden plot from April through October.

\_\_\_\_\_  
Signature

APPENDIX D  
Family recruitment materials

**Formulario de Solicitud del Jardín de la Familia Lane  
Laboratorio de Aprendizaje de Jardinería, SE 60<sup>th</sup> & Duke**

Nombre(s) de los Jardineros: \_\_\_\_\_

Nombre(s) del estudiante del Jardín de Lane: \_\_\_\_\_

Número y edades de las personas que viven en su casa: \_\_\_\_\_

Idioma(s) que habla: \_\_\_\_\_

Dirección: \_\_\_\_\_

Número de teléfono: Día \_\_\_\_\_ Noche \_\_\_\_\_

Por favor marque lo siguiente:

- ☐ Este es mi primer año en este jardín
- ☐ Me gustaría un jardín cerca de un amigo, Nombre \_\_\_\_\_
- ☐ He hecho jardinería aquí antes
- He trabajado en jardinería antes en (¿Dónde?) \_\_\_\_\_

¿Hace cuántos años que hace jardinería? (Por favor marque en circulo la respuesta correspondiente)

ninguno      1-2 años      3-5 años      6-10 años      10 años o más

¿Qué es lo que le interesa cultivar más? (Por favor haga una lista):

\_\_\_\_\_

\_\_\_\_\_

¿Qué distancia tiene que manejar para ir al jardín? (Por favor marque la respuesta correspondiente)

una cuadra      1-6 cuadradas      6 cuadradas a una milla      una milla o más  
(más o menos)

Thanks to Patricia Gutierrez from the PSU Foreign Language Tutoring Center for her help in translating this document!

APPENDIX D  
Family recruitment materials

¿A que hora cree usted sería más apropiado programar eventos sociales, talleres de jardinería y/o ¿fiestas en el jardín? (por favor marque en circulo su respuesta)

AM                  PM                  Días de semana                  Fines de semana

Días y horas específicas que usted estaría disponible: \_\_\_\_\_

\_\_\_\_\_

Estoy dispuesto a comprometerme en cuidar la parcela del jardín de abril hasta octubre

\_\_\_\_\_

**\*\*Por favor devolver al carpeta.**

APPENDIX D  
Family recruitment materials

Lane Take-Home Newsletter Announcement

**Free Garden Space for Lane Families!**

The Learning Gardens Lab at SE 60<sup>th</sup> and Duke is offering free garden plots to families of Lane Middle School students! Seeds and plants will be provided for free! Families who sign up can use tools and the greenhouse at the gardens.

Learning Gardens Lab will offer free classes to teach organic gardening this spring, summer, and fall. Group work parties for families will happen too.

Gardeners can pair with an Experienced Garden Mentor to help them learn to garden.

Learn how to grow your own food, and meet new friends!

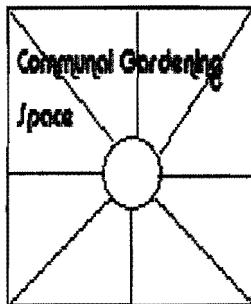
This opportunity is for April 2010-October 2010.

Get more information in the SUN family room on Tuesday February 24<sup>th</sup> at 6 PM or Thursday February 26<sup>th</sup> at 9AM to find out more about this opportunity.



# APPENDIX E Map of the Family and Multicultural Gardens, 2010

Future home of  
additional family  
plots or communal  
space



Family Plot	Family Plot
Family Plot	Family Plot

Family Plot	Family Plot
Family Plot	Family Plot
Family Plot	Family Plot
Family Plot	Family Plot
Family Plot	Family Plot

Water Source

PJU Production  
Space  
Fall/Spring '09-10:  
Rye cover crop  
Spring-fall 10:  
3 tubers

Capstone Garden

Lone Middle School  
Student Garden

**APPENDIX F**  
**Capstone Student Survey Questions**

1. Please take a moment to explore your role with the Lane Family Garden project. How did you feel your role was meaningful?
2. Did this work connect to your capstone? What elements seemed most pertinent?
3. Can you share any ways your experience at the Learning Gardens has connected to your own culture? (Your family, your relationship with the land, your story?)
4. Part of our mission as sustainability educators is to consistently improve our practice. In what ways could the experience of future capstone students be improved in projects at LGL?
5. How could you have improved your own practice in connection to work on this project?
6. Any other thoughts you would like to share:

**APPENDIX G**  
**Family garden guidelines**

**Lane Family & Multicultural Gardens**  
**Learning Gardens Laboratory (LGL)**  
**SE 60<sup>th</sup> & Duke**

**Garden Coordinators:**  
**Madelyn Morris (503) 867-4528 [madelyn@pdx.edu](mailto:madelyn@pdx.edu)**  
**Cate Clothier (503) 260-9500 [clothiers3@gmail.com](mailto:clothiers3@gmail.com)**

**Family Garden Guidelines**

- ❖ Garden organically – no chemical pesticides or fertilizers.
- ❖ Contact a Family Garden Coordinator with any questions or needs.
- ❖ Plan on spending 2 hours per week, on average, tending your garden plot during the season.
- ❖ If you can no longer tend the plot, notify the Garden Coordinator.
- ❖ Please sign in the book in Greenhouse 5 every time you arrive to LGL.
- ❖ Please don't bring dogs.
- ❖ Children, friends and family are welcome at the Learning Gardens!
- ❖ Children under 16 need an adult nearby in all garden areas.

**What to Grow**

You can grow vegetables, herbs, and flowers. Seeds and seedlings will be given to you for free.

**Garden Education and Assistance**

You can pair with an experienced Garden Mentor for the season, who will meet with you to help plan, plant, and maintain your garden.

**Tools and Tool Care**

You can use tools while working in the garden. After use, clean tools and return to the tool shed. Tools can not leave LGL. Remember, only adults are allowed in the tool shed. If you need tools or supplies, talk with a Garden Coordinator or your Garden Mentor.

**Watering**

Staff will assist with watering your garden plot in the summer months. If you need to use the hose to water, make sure to always turn it off, roll it up and put it back!

**Summer Garden Hours**

Monday	8:00-3:30	9:00-12:00 Master Gardener Q&A
Tuesday	8:00-3:30	
Wednesday	8:00-7:00	
Thursday	8:00-7:00	9:00-12:00 Master Gardener Q&A
Friday	8:00-3:30	
Saturday	9:00-12:00	
Sunday	CLOSED	

## APPENDIX H

### Garden Mentor Recruitment Statement

\*This statement was posted on the OSU Master Gardeners online network.

#### Oregon State University Master Gardeners (TM)

#### **A message to all members of Oregon State University Master Gardeners (TM)**

##### **Lane Family Garden (6801 SE Duke)**

This project involves the implementation of a free community garden space at the Learning Gardens Laboratory for the diverse families of Lane Middle School students. Many of these families are first generation immigrants who are learning English, from low socio-economic backgrounds. Families who sign up for the program will be provided with a garden plot and all necessary tools, equipment and seeds to begin growing their own produce. Educational workshops and work parties will be provided for participants throughout the growing season, led by Learning Gardens Laboratory staff. Gardeners will also have the option of pairing with an experienced garden mentor, to help them individually with their gardening techniques.

Interested Garden Education Volunteers will be paired with Lane Family Gardeners as their garden mentor. Volunteers will be expected to set up times to meet periodically with the gardener they are paired with to work together in the garden, assisting with planning, planting, weeding, watering, and other general garden maintenance. The goal of this relationship is to support and help gardeners achieve success growing their own produce for home consumption. Skills necessary for this volunteer position include experience with home-scale vegetable, herb and flower gardening. Excellent communication skills and a sincere willingness to reciprocally share knowledge in a non-hierarchical manner will be essential. Proficiency in a language other than English would be helpful, but is not required. Volunteers interested in food security issues and community development will be particularly well-suited for this project

**For More Info Please Contact**

**Madelyn Morris**

**[madelyn@pdx.edu](mailto:madelyn@pdx.edu)**

APPENDIX I  
Garden Mentor position description, application, and guidelines

**Volunteer Garden Mentor Position Description**

**Lane Family Garden Project  
Learning Gardens Laboratory  
SE 60<sup>th</sup> & Duke**

Lane Family Garden Coordinators:

Madelyn Morris: (503) 867-4528 [madelyn@pdx.edu](mailto:madelyn@pdx.edu)

Cate Clother: [cloth3@gmail.com](mailto:cloth3@gmail.com)

PSU Learning Gardens Coordinator: Dr. Heather Burns

Learning Gardens Site Coordinator: Weston Miller, OSU Extension Service

OSU Extension Assistant: Beret Halverson

**The Learning Gardens Laboratory**

The Learning Garden Laboratory (LGL) is a 12-acre garden education site located in Southeast Portland that provides K-12, university students and community members hands-on and place-based education in sustainable gardening, healthy nutrition, and permaculture.

**Project Overview:** The Lane Family Garden Project is a FREE program available to families of Lane Middle School students. Lane Middle School is located across the street from the Learning Gardens Laboratory. Lane students receive hands-on environmental and science education at the Learning Gardens Laboratory from PSU graduate students during the school year. The Lane community is multi-cultural, with many families who are first generation immigrants and who are learning to speak, read, and write in English. Lane families are predominantly from low socio-economic backgrounds.

All participants in the Lane Family Garden Project will be provided with a free garden plot, seeds, transplants, and soil amendments. Gardeners will have access to gardening tools and the greenhouses on site. Gardeners will participate in free educational workshops and group work parties, facilitated by Lane Family Garden Coordinators and LGL staff. Gardeners will receive free educational materials to use.

In addition to the provisions mentioned above, Lane Family Garden participants will be given the option of pairing with an experienced Volunteer Garden Mentor. The role of the Garden Mentor is to help the family gardener to be successful throughout the season.

**Garden Mentor Qualifications:** Volunteer Garden Mentors should have practical, hands-on experience in food gardening. Proficiency in a language other than English will be helpful, but is not required. In addition, a sincere willingness to engage in reciprocal, participatory sharing of knowledge is essential. Volunteers interested in community development and food security issues will be especially well-suited to this position.

**Garden Mentor time commitment**

## APPENDIX I

### Garden Mentor position description, application, and guidelines

This position requires a commitment from April-October 2010, for about 1 hour per week on average.

You can choose what you are willing to commit to, and will be expected to follow through on this level of involvement once you have committed. Specific times and dates will vary according to yours and the family gardener's schedules.

**Garden Mentor Responsibilities:** Garden Mentors volunteer their time to share gardening knowledge and experience. After an initial interview with a Lane Family Garden Coordinator and introduction to the Learning Gardens Laboratory site, you will be paired with and introduced to your family gardener. You will need to determine their goals, vision and desires in the garden for the season, and set a schedule for you both to meet – weekly, bi-weekly, monthly, or a few times – during the season.

Work with your Family Gardener throughout the seasons can include any of the following:

- Assist with garden planning, maintenance and problem-solving for the season
  - organic pest control and other troubleshooting
  - appropriate soil amendment and organic fertilizer use
  - seed starting & saving, garden layout & planning
  - watering, weeding, harvesting, garden cleanup, composting
- Connect family gardeners to other community resources
- Communicate with family gardeners and LGL staff regularly
- Participate in group work parties with other family gardeners
- Put together educational materials for family gardeners to use
- Distribute surplus produce to others in the community
- Help with gardening the Lane Family Communal Gardening space

If you are interested in this position, please complete and return the Garden Mentor Application to Madelyn Morris: [Madelyn@pdx.edu](mailto:Madelyn@pdx.edu)

We will get in touch with you soon after receiving your application!

APPENDIX I  
Garden Mentor position description, application, and guidelines

**Volunteer Garden Mentor Application**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Are you a:      \_\_\_\_\_ OGCP Participant      \_\_\_\_\_ Master Gardener

Other (please explain) \_\_\_\_\_

Please briefly describe your gardening background: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please tell us anything else about yourself that makes you a good match for this position:

\_\_\_\_\_

\_\_\_\_\_

APPENDIX I  
Garden Mentor position description, application, and guidelines

**Garden Mentor Guidelines (Adapted from Growing Gardens Garden Mentor Program)**

**Responsibilities:**

Communicate with gardeners and Learning Gardens Lab staff.

Assist new gardeners with planning, maintenance, and problem solving.

Connect Gardeners to other community resources.

Share information about any upcoming garden events.

Maintain continued contact with Gardeners throughout the growing season.

Promote organic gardening methods among Gardeners and in the community.

**Expectations:**

It is your responsibility to contact a Garden Coordinator if you are unable to fulfill your commitment, if the match is not working, or you need help problem-solving.

Be respectful to yourself and others.

Our goal is not to do for others, but to help others do for themselves. Your role is intended to support and nurture – not take over.

Be a friend. We don't expect that every match will yield a lifelong friendship – but our work is as much about building community as building gardens.

A beginning gardener does not necessarily know what questions to ask – your suggestions will be welcome!

Be a resource. You don't need to know everything – just where to look to find information. Make sure to talk with Gardeners about where you go to find answers and ideas!

Communicate with Gardeners on a regular basis. Keep the communication lines open. Don't be quick to give up if things start slowly.



**APPENDIX J**  
**Garden Mentor interview question samples**

1. What interested you in being a Family Garden Mentor this year?
2. How did you find out about this volunteer opportunity?
3. What is your gardening background?
4. Please describe ways you mentor your gardening partner. What specific tasks do you assist with?
5. Have you provided your family gardener with any gardening resources? What kind of resources?
6. How often, on average, do you work with your family gardener at the Learning Gardens?
7. Reflect on the experience of helping a family to grow their own food – is it what you expected? Has anything surprised you?
8. What have you most enjoyed so far about this mentoring relationship?
9. Has anything been difficult or challenging with the garden mentorship?
10. Can you make any suggestions for improving the garden mentor program at Learning Gardens in the future?

APPENDIX K  
Family Gardener Interview Questions

1. What do you most like about your neighborhood?
2. How long have you lived here?
3. What is your family connection to a Lane Middle School Student?
4. How did you find out about gardening at the Learning Gardens?
5. Do family members ever garden with you at the Learning Gardens? Who?
6. Do you have any gardening background prior to gardening at the Learning Gardens Lab?  
If yes, from where?
7. What are you most looking forward to eating from your garden?
8. Do you share or plan on sharing garden plants or food from the garden with anyone? If yes, who?
9. What do you most enjoy about working the land?
10. Do you feel safe in the garden?
11. Is the garden easy to access for you?
12. What do you like most about gardening at the Learning Gardens?
13. What changes might make gardening easier/better for you at the Learning Gardens?  
No, you've got plants, you've got water...
14. Can you share some of your reasons for deciding to have a garden at LGL this year?
15. Does gardening remind you of anything about your culture? (Your family, your home country, your food...your story?)
16. Could you share a story about your favorite food, memory in a garden, etc. ?

## APPENDIX L

### Educational workshop outlines

#### March/April

1. Introduction to the Garden: purpose of the project, benefits of sustainable urban gardening, including social, environmental, and personal health benefits.

#### Workshop structure:

1. Welcome, description and purpose of the project
2. Get-to-know-you's, names, gardening experience, hopes for the season.
3. Tour of LGL, focusing on family garden specifics
4. Coffee, tea, snacks in greenhouse, and intro to organic gardening
  - Give out 3-ring binders with paper, pencils.
  - Traditional agriculture vs. organic agriculture
  - Pesticides and natural methods, benefits of organic
  - Permaculture, or "forest gardening"
  - Include many visual aids, large and take home
5. Choosing and marking garden beds
  - Pre-made clay tiles, with stamps to mark gardener's names into?
  - Or just numbered/lettered beds?
6. Next steps and goodbye
  - Begin thinking about what you'd like to grow
  - Introduce next workshop, when and what

#### April/May

2. Garden Design: planning and designing garden plots and crops.

#### Workshop Structure:

1. Welcome, coffee, tea and snacks in greenhouse.
2. Intro to the day, what we'll be talking about
  - Illustration on row planting vs. keyhole/integrated planting
  - Examples of natural forest growth, industrial agriculture, and permaculture
  - Companion planting, why and how?
  - Crops, what do we want to grow, how much considering our family's needs?
  - Work on designing individual garden beds together
  - Visual aids
3. Next steps and goodbye
  - Continue creating garden plot design at home
  - Introduce next workshop, when and what

3. Planting: seeds and starts, when and how.

#### Workshop Structure:

1. Welcome

APPENDIX L  
Educational workshop outlines

2. Intro to the day, what we'll be doing
3. Start planting seeds!
  - Make potting soil together
  - Help each gardener choose seeds according to their list
  - Plant seeds, water
  - Explain how long it will take seeds to germinate, rates of germination, transplanting, why are some seeds planted directly in the ground?
4. Next steps: watering seedlings, preparing our garden beds for transplanting.

June

4. Maintenance: weeding, watering, mulching, composting.

July

5. Harvest: harvesting, preparing, and preserving fresh produce.

August

6. Celebration and Evaluation: have a party! Celebrate and evaluate work and learning.

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